



## DOCTOR OF CLINICAL PSYCHOLOGY (DCLINPSY)

### Doctorate in Clinical Psychology: Main Research Portfolio

**1) Could a unified theory of cognition and emotion further the transdiagnostic perspective? A critical analysis using Interacting Cognitive Subsystems as a case example.; 2) Staff attitudes towards treatment options and offering choice over treatment in an Early Intervention for Psychosis service; 3) Parental anxiety, parent-child talk and psychological adjustment following child trauma.**

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# Research Portfolio Submitted in Part Fulfilment of the requirements for the Degree of Doctorate in Clinical Psychology Volume 1 of 2

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Doctorate in Clinical Psychology

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May 2015

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University of Bath  
May 2015

## **Declaration**

I declare that the work presented in this thesis is my own and has not been submitted for any other degrees in this or in any other university or institute of learning.

## **Publications**

Some of the work described in this thesis has previously been published.

## **Literature review**

Cowdrey, F. A., Lomax, C., Gregory, J.D. & Barnard, P.J. Could a unified theory of cognition and emotion further the transdiagnostic perspective? A critical analysis using Interacting Cognitive Subsystems as a case example. *Psychopathology Review. In press.*

## **Case study**

Cowdrey, F. A., & Walz, L. (2015). Exposure therapy for fear of spiders in an adult with learning disabilities: a case report. *British Journal of Learning Disabilities, 43* (1), 75 - 82.

## **List of abbreviations**

CBT	Cognitive behavioural therapy
DASS-21	Depression Anxiety and Stress Scale
DSM-IV	Diagnostic and Statistical Manual (Edition 4)
DSM-5	Diagnostic and Statistical Manual (Edition 5)
DUP	Duration of untreated psychosis
ED	Emergency Department
EIP	Early intervention for psychosis
GCS	Glasgow Coma Scale
ICS	Interacting Cognitive Subsystems
MBCT	Mindfulness-based cognitive therapy
NICE	National Institute for Health and Care Excellence
NRES	National Research Ethics Service
PDS	Post Traumatic Diagnostic Scale
PO	Parental Overprotection Measure
PROTECT	Parental Response to Child Experiences of Trauma
PTS	Post-traumatic stress
PTSD	Post-traumatic stress disorder
PTSD-RI	PTSD Reaction Index for DSM-IV
RCADS-25	Revised Child Anxiety and Depression Scale
SIP	Service improvement project
SPSS	Statistical Package for Social Sciences
SU	Service user



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## Abstracts

### **Could a unified theory of cognition and emotion further the transdiagnostic perspective? A critical analysis using Interacting Cognitive Subsystems as a case example.**

There is evidence that common processes underlie psychological disorders transdiagnostically. A challenge for the transdiagnostic movement is accounting for such processes theoretically. Theories of psychological disorders are traditionally restricted in scope, often explaining specific aspects of a disorder. The alternative to such '*micro-theories*' is developing frameworks which explain general human cognition, so called '*macro-theories*', and applying these systematically to clinical phenomena. Interacting Cognitive Subsystems (ICS) [Teasdale, J.D., & Barnard, P.J. (1993). *Affect, cognition and change: Re-modelling depressive thought*, Lawrence Erlbaum Associates, Hove] is a macro-theory which aims to explain aspects of information processing. The aim of this review is to examine whether ICS provides a useful platform for understanding common processes which maintain psychological disorders. The core principles of ICS are explained and theoretical papers adopting ICS to explain a particular psychological disorder or symptom are considered. Dysfunctional schematic mental models, reciprocal interactions between emotional and intellectual beliefs, as well as attention and memory processes, are identified as being important to the maintenance of psychological disorders. Concrete examples of how such variables can be translated into novel therapeutic strategies are given. The review concludes that unified theories of cognition and emotion have the potential to drive forward developments in transdiagnostic thinking, research and treatment.

## **Staff attitudes towards treatment options and offering choice over treatment in an Early Intervention for Psychosis service**

**Background:** For people with psychosis, the duration of untreated illness is operationalized in terms of administering antipsychotic medication which establishes it as the front-line treatment. This may influence staffs' attitudes towards different treatments which in turn may make it harder to offer service-users (SUs) choice.

**Aim:** To investigate staff attitudes in an early intervention for psychosis (EIP) team towards different treatment options and the factors that influence whether SUs with psychosis should have choice over their treatment.

**Method:** Nine members of staff from an EIP team completed a survey which measured the direction and strength of attitudes. Qualitative and quantitative analyses were employed.

**Results:** Staff believed that antipsychotics need not be the first line intervention and that SUs should have choice over their treatment. However, several factors were identified which influenced their views. Six categories emerged from the qualitative analysis: attitudes towards different interventions, decision-making around treatment, provision of services, factors influencing prescribing, process of prescribing and research influencing practice.

**Conclusions:** There are a number of factors which influence staff's attitudes towards different treatments. These factors may make offering choice to SUs with psychosis difficult. Future research should investigate SU's views, how attitudes relate to clinical practice and how staff keep abreast of and integrate research developments into practice.

Declaration of interest: None

Keywords: Psychosis, early intervention, treatment, choice

## **Parental anxiety, parent-child talk and psychological adjustment following child trauma**

**Background:** Based on existing theory and research from the child anxiety and adult post-traumatic stress disorder (PTSD) fields, this study aimed to examine whether parental anxiety, parental overprotection and degree of elaboration in parent-child conversations shortly after a traumatic event predicted post-traumatic stress (PTS) symptoms three months post-trauma.

**Method:** Forty two children who had experienced a traumatic event resulting in attendance at an emergency department were recruited along with their parent. Self-report measures of anxiety, depression, PTSD and parental overprotection were completed 2-6 weeks post-trauma and again three months post-trauma. Parent-child dyads also completed a joint narrative task focused on the traumatic event in order to assess parental elaboration.

**Results:** Regression analysis demonstrated that three months post-trauma, parental anxiety significantly predicted child PTS symptoms, even after controlling for injury severity. Overprotective parenting and parental elaboration did not predict child PTS symptoms or anxiety and depression symptoms.

**Conclusions:** In line with etiological models of child anxiety, parental anxiety may be one factor relevant to the development of child PTS symptoms following a traumatic event.

**Could a unified theory of cognition and emotion further the transdiagnostic perspective? A critical analysis using Interacting Cognitive Subsystems as a case example.**

Candidate: Dr. Felicity Cowdrey

Supervisor: Dr. James Gregory

Collaborators: Dr. Claire Lomax, Dr. Philip Barnard

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Journal aiming for: Psychopathology Review (see Appendix A)

*This journal was selected because of its focus on theoretical articles that augment or challenging existing theoretical views of psychological disorder or clinical phenomena.*

## Introduction

Effective psychological therapies are largely the product of clinical theory. There are a multitude of special purpose clinical theories, so called ‘micro-theories’, which have resulted in psychological interventions for specific diagnoses or symptoms. For example, the cognitive theory of depression proposed by Beck and colleagues underpins cognitive therapy for depression (Beck, 1967), for which there is an impressive evidence-base (Butler, Chapman, Forman, & Beck, 2006). Similarly, the cognitive theory of social anxiety disorder has guided the development of a specific form of cognitive behavioural therapy (CBT) which is now the recommended treatment for this presentation (Clark & Wells, 1995; NICE, 2013). Whilst micro-theories emphasise different psychological processes to a greater or lesser extent, common constructs can be identified across them such as schemata, arousal and attention (Beck & Haigh, 2014). These constructs have been derived from basic scientific theories which detail the fundamental mechanisms of cognition and affect.

Despite some common ground, significant theoretical heterogeneity has emerged within clinical psychology. This is not due to fundamentally different processes underpinning psychological disorders; rather it is a result of theorists highlighting particular constructs over others, using different language to describe seemingly similar processes or in some cases, attributing a different meaning to the same word. For example, the terms ‘meta-cognition’, ‘observing self’ and ‘mindfulness’ have been adopted by different theorists to refer to overlapping processes. Similarly, the meaning of ‘schema’ (or plural ‘schemata’) is different depending on the specific theory being studied. For Beck, schemata are cognitive representations of an individual’s prior experiences (Beck, Rush, Shaw, & Emery, 1979), whilst for other theorists schemata refer to broader and multimodal (sights, sounds, smells) representations of past memories (James, Reichelt, Freeston, & Barton, 2007).

Micro-theories emphasise different constructs, whilst omitting others, depending on the phenomena which they are trying to explain. This is in part understandable; in developing theory for applied clinical settings, there has to be a trade-off in terms of applicability for clinicians versus theoretical completeness. Basic scientific theory, which arguably has the potential to explain psychological phenomena in more detail, can be complex and as identified by Barnard, a very detailed understanding of such

theory is not necessary in order to conduct effective therapeutic work with clients (Barnard, 2004).

There are, however, potentially some disadvantages of using micro-theories which focus on specific disorders or symptoms. Psychological disorders are defined by a constellation of symptoms. Therefore, in order to understand and treat a psychological disorder in its entirety, theories need to have the potential to explain the range of signs, symptoms and processes associated with a particular psychological disorder. As micro-theories have restricted scope, therapists may have to switch between theories and therapies both when working within a disorder or across disorders (for example, in the case of co-morbidity). By relying on micro-theory, therapists may find themselves switching between theories depending on whether they deem that attention, memory or cognition is the crucial factor in maintaining a client's symptoms. This requires clinicians to understand a range of theoretically diverse terms, processes and principles. Perhaps unsurprisingly, it has been identified that clinicians are not always familiar with the theoretical underpinnings of treatments they are administering (Dobson & Beshai, 2013). This is concerning given the view that greater working knowledge of theory will result in better clinical outcome (Herbert, Gaudiano, & Forman, 2013). Further, each time a micro-theory is developed for a specific process or disorder, a new programme of research is required to test the validity of the predictions it makes. Diverging from the law of parsimony, this seems an inefficient way of working, especially if the results do not support the theory in question.

There is also the issue of accounting theoretically for symptom overlap. Individual micro-theories cannot explain commonalities across disorders and nor should they; by definition, micro-theories are disorder-specific, accounting for a specific disorder's aetiology and maintenance. However, this poses a significant challenge for the transdiagnostic movement as proponents of this argue for an 'across-diagnosis' perspective rather than focusing on specific disorders (Mansell, Harvey, Watkins, & Shafran, 2008). Whilst intuitively this makes sense, without a unifying theory 'pick and mix' models will simply be replaced by 'pick and mix' processes.

One alternative to micro-theories is to use comprehensive 'macro-theories' to bridge the gap between basic scientific theory and micro-theories (Barnard, 2004). Macro-



theories aim to not only explain individual mental components, such as memory and attention, but model how these basic components work together (Barnard, May, Duke, & Duce, 2000). Using macro-theory, it may be possible to overcome some of the disadvantages of relying on micro-theories whilst negating the need for clinicians to have an extensive understanding of basic scientific theory. The possible advantages of using macro-theories generally in clinical practice will be considered briefly.

Macro-theories detail the mechanisms which underlie ‘normal’ cognition and affect and have evolved as a result of empirical research in the general population. This is an advantage as such theories can be used as a platform for understanding how ‘normal’ mechanisms go wrong in the case of psychological disorders. Such an approach lends itself to more streamlined and less stigmatizing research strategies which seek to test hypotheses about what happens when mechanisms function beyond the limits of the ‘normal’ range. Further, macro-theory provides a common language which could be used across problems and contexts. In this way, various micro-theories could be subsumed by an overarching macro-theory but importantly, consistent terminology would be used to describe similar concepts. Lastly, macro-theory could model the *interaction* between processes thereby accounting for both symptom overlap and differences.

Given the advantages of macro-theories, it is important to recognise that they do not dominate the theoretical landscape in clinical psychology and consider why this is the case. Compared to micro-theories, which are restricted in nature, understanding macro-theories in the first instance requires significant investment in terms of time. This may be a challenge for busy clinicians whose practice has been successfully informed by micro-theories for many years. Further, macro-theories are not theories in the traditional sense that the field of clinical psychology has tended to employ them; they are based on ‘normal’ functioning and account for many aspects of human experience. Therefore, macro-theories have low predictive power for explaining a specific clinical phenomenon and it is initially hard to envisage how such theories could be distilled to explain a specific phenomenon. Lastly, as macro-theories define the basic units and mechanics of the human mind, the evidence-base is specified at a different level compared to clinical theories. Whilst macro-theories generally have strong theoretical evidence in supports of their key attributes, there is

a relative lack of data examining the mechanisms in clinical subjects. This potentially reduces their applicability to clinical practice.

There are now a number of frequently cited theories which go beyond the definition of a micro-theory, such as Perceptual Control Theory (Powers, 1973; Powers, Clark, & McFarland, 1960); The Perceptual Motor Processing Model of Emotion (Leventhal, 1979), The Schematic Propositional Analogical and Associative Representation Systems Approach (Power & Dalgleish, 1997) and the Generic Cognitive Model (Beck & Haigh, 2014)<sup>2</sup>.

For the purpose of this review, Interacting Cognitive Subsystems (ICS) (Teasdale & Barnard, 1993) has been selected as the lens through which the potential use of macro-theory transdiagnostically will be investigated. ICS has been selected for number of reasons. Firstly, as ICS cites as an aim “to be able explain all aspects of information processing” (Teasdale, 1993 p. 344), it is potentially relevant to the theoretical understanding of psychopathology transdiagnostically. Secondly, clinicians only need a broad understanding of ICS as a whole; specific processes or aspects of ICS which pertain to a particular clinical phenomenon can be concentrated on. Thirdly, ICS provides a theoretical rationale for the use of novel interventions, such as mindfulness-based interventions. This is timely given the surge of interest and evidence in support of mindfulness-based interventions for a range of psychological and health problems (for a review see Fjorback, Arendt, Ornbol, Fink, & Walach, 2011). Lastly, ICS is a general framework of how the mind works and therefore a number of the predictions have been systematically tested in the general population (for example, Barnard, Scott, & May, 2001; Ramponi, Barnard, & Nimmo-Smith, 2004; Scott, Barnard, & May, 2001). Interestingly, a number of these studies are highly relevant to the understanding of psychological disorder, such as the effect of mood on the recollection of autobiographical memories (Ramponi et al., 2004).

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<sup>2</sup> It is beyond the scope of this review to consider each of these in turn. Interested readers are directed to Power and Dalgleish (2004) and Mansell (2005) who provide an overview of other relevant macro-theories.

## **Overview of ICS**

ICS was first described as a macro-theory which has the potential to explain aspects of information processing (Barnard, 1985). Initially, ICS was used to explain performance on short-term memory tasks and was later developed to explain the interaction between cognitive processes and emotional reactions by Barnard and Teasdale (Barnard & Teasdale, 1991). The essence of ICS can be understood by drawing on five key principles which will be briefly outlined. Table 1 provides a glossary of key terms used within ICS.

**Table 1 Summary of key ICS terms and processes**

<b>ICS term or process</b>	<b>Description</b>
<b>Cognitive subsystems</b>	<p>The workings of the mind are modelled by interactions between subsystems which are constrained by a number of operating principles.</p> <p>Each subsystem deals with a different type of code such as acoustic code or visual code.</p> <p>Information processing involves the transformation of patterns of information in one code into patterns of information in another code.</p> <p>Totality of these interactions produces a model of the mind as a dynamic and self-organising system.</p>
<b>Propositional meaning</b>	<p>Encoded in propositional subsystem.</p> <p>Conceptual, analytical and can be assessed as true or false.</p> <p>Not connected to emotion, physical sensation or body-states.</p> <p>The kind of meaning of individual words in a sentence or the individual actions that make up a sequence in a practical visuospatial task.</p> <p>Carries no affective charge.</p>

*Table 1 cont.*

ICS process	Description
<b>Implicational meaning</b>	<p data-bbox="692 472 1912 544">Represents higher order implicit meanings, or schematic mental models of experience, encoded in the implicational subsystem.</p> <p data-bbox="692 584 1357 614">Generic, holistic meaning which lack explicit detail.</p> <p data-bbox="692 654 1675 684">Similar to the meaning of a whole sentence, rather than the individual words.</p> <p data-bbox="692 724 1850 754">Comprised of multimodal patterns of code (propositions, sensory, and body-state sources).</p> <p data-bbox="692 794 1377 825">The kind of meaning linked to felt senses or intuition.</p> <p data-bbox="692 865 1868 936">Can carry affective charge and it is the only level of representation that can directly produce emotion.</p>
<b>Body-state subsystem</b>	<p data-bbox="692 976 1897 1048">Encodes interoceptive (e.g., heart rate), somatic (e.g., touch) and proprioceptive (e.g., posture) signals, labelling location, intensity and rate of stimulation, as well as taste and smells.</p> <p data-bbox="692 1088 1534 1118">Different bodily inputs are integrated into a felt sense of the body.</p> <p data-bbox="692 1158 1856 1230">Subjectively corresponds to bodily sensations, for example, of pressure, pain, positions and experience of parts of the body.</p>
<b>Direct transformation</b>	<p data-bbox="692 1270 1283 1300">Occurs online, without awareness in real time.</p> <p data-bbox="692 1340 1187 1370">Ongoing, occurring in the background.</p>

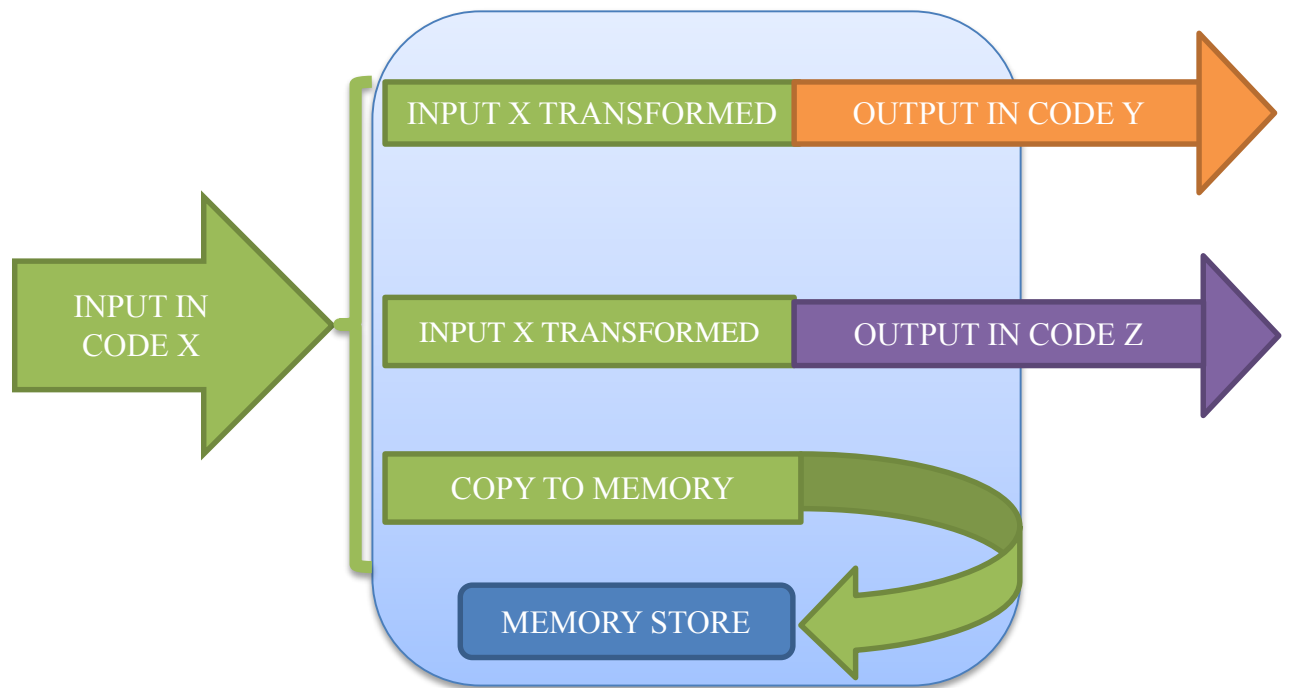
*Table 1 cont.*

<b>ICS process</b>	<b>Description</b>
<b>Buffered transformation</b>	Transformation from one code to another code via an image, akin to a short term memory store.  Allows a large array of information to be transformed in ‘chunks’.  Buffer can only be held at one subsystem at a time, but can constantly shift.  Location of buffering determines the focus of attention.
<b>Mode of processing</b>	The focus of the mind’s attention  Gives rise to mutually exclusive, distinct mind-sets.  A function of where buffered transformation is occurring (and thus where attention is directed).

Table 1 is adapted with permission from “Schematic models and modes of mind in anorexia nervosa 1: A novel process account. Rebecca J. Park, Barnaby D. Dunn and Philip J. Barnard (2011). *International Journal of Cognitive Therapy* 4 (4), 415-437.

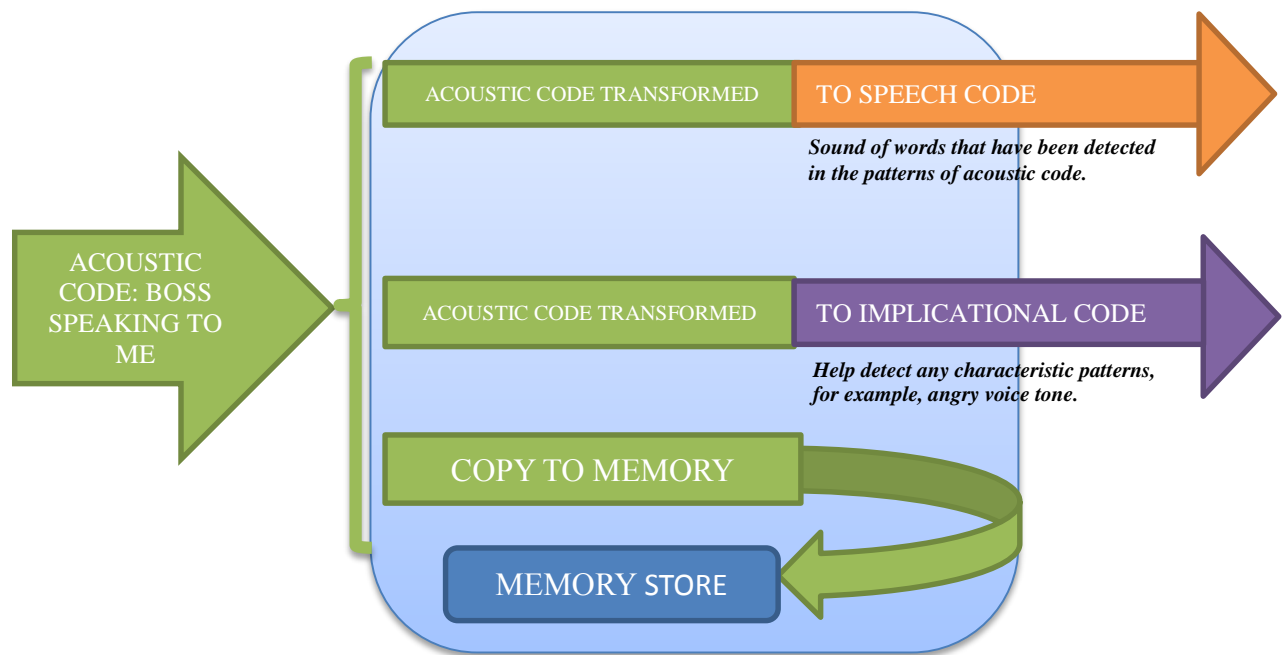
Firstly, ICS suggests that qualitatively distinct information is encoded as nine different mental codes, each by their respective subsystem: acoustic, visual, body-state, object, morphonolexical (speech forms), propositional, implicational, articulatory and limb. Each of these subsystems process a specific type of mental code (for example, the acoustic subsystem processes acoustic code); conducts a transformation process from one code to another and contains a code-specific memory store or 'image record' (Figure 1). These 'image records' can be drawn upon at times of remembering but also when trying to comprehend a specific situation or predict a future outcome. Multiple records of the same event will therefore be stored but in the different subsystems (for example, an acoustic store and a visual store), which is consistent with how other theories conceptualise the storage of, for example, autobiographical memories (Brewin, Gregory, Lipton, & Burgess, 2010). Information transformation therefore occurs within a specific subsystem and successful information processing involves the exchange of information between subsystems. As a result, the code which is inputted into a system will differ from code which is outputted.

In ICS, information processing occurs through a chain of transformations and the nature of these transformations is based largely on previous experiences. For example, visual information of a person's boss frowning at them will be inputted as visual code that may activate an intrusive image of a past experience of depression (within subsystem transformation producing an 'image record') which then is transformed into an effector code constituting somatic symptoms of the depressive episode, such as a slumped posture. As will be discussed further below, if the constellation of codes is typical of a previous affect-related experience, an emotional response will occur. This transformation process may partially account for the confusion individuals experience in understanding their responses to both internal and external stimuli, that is, the relationship between a boss's frown and slumping into one's seat is not immediately obvious.



*Figure 1a.* The basic structure of a subsystem within ICS. ICS defines nine subsystems. One cognitive subsystem is shown. Two processes occur within each subsystem, transformations and copy processes. There is a memory store within each subsystem. Figure 1a is adapted from “Affect, Cognition and Change” by J.D Teasdale and P.J. Barnard, 1993, p.58.





*Figure 1b.* An example of an acoustic cognitive subsystem at work. This subsystem contains both the acoustic to speech code (morphonolexical) and acoustic to implicational transformations. Acoustic information is received and transformed. It can then be stored as speech code and an integrative schematic code (implicational). In this example, implicational code might represent, for example, the schematic mental model “when my boss talks to me he is angry”.

The way in which information is transformed from one type of code into another is also important in ICS. The transformation process can occur in two different modes: direct and buffered. In direct mode, the transformation processes makes use of limited amounts of incoming information and occurs ‘on-line’. In buffered mode, chunks of incoming information are allowed to accumulate before the transformation process occurs. Thus in buffered mode, more information is collated before a response occurs and so the response reflects the wider context than is possible in direct mode. Only one subsystem can enter buffered processing mode at any one time due to capacity restraints. Therefore, the buffered subsystem becomes the focal point for attention. For example, buffering of the body-state subsystem would result in awareness of bodily sensations.

Two subsystems capture specific and more general meanings: propositional and implicational. The information represented by propositional and implicational code is fundamental to the application of ICS to psychological disorders, particularly as emotion production depends on the implicational subsystem. Therefore, the propositional and implicational subsystems warrant further discussion.

**Two levels of meaning and emotion production.** ICS makes an important distinction between propositional and implicational meaning. Propositional code represents specific conceptual meanings that can have a truth value (Teasdale & Barnard, 1993). For example, ‘My heart is beating faster’ would be considered propositional as the concept is easy to grasp and can be assessed as being true or false. Patterns of implicational code represent a more generic and holistic level of meaning which is harder to express linguistically and experienced more like a felt sense, for example ‘self as anxious’ or ‘self as weak and helpless’. This more abstract level of meaning is derived from specific propositional meanings combined with sensory-derived elements (Teasdale & Barnard, 1993). Within ICS, frequently co-occurring patterns of implicational code are thought of as ‘schematic mental models’ of experience. Therefore you may have a schematic mental model of ‘unacceptable self’ which is comprised of propositional code ‘I’m boring and useless’ and sluggish bodily feedback. The overall meaning captured by schematic mental models is qualitatively different from the sum of its parts. An analogy made by Teasdale and Barnard for understanding this is the difference between individual words of a sentence and the sentence as a whole; the meaning of a whole sentence (implicational meaning) is qualitatively different from the component words (Teasdale & Barnard, 1993).

The exchange of information *between* propositional and implicational subsystems is integral for the formation and maintenance of schematic mental models and functions as a control loop; schematic mental models generate specific propositions and propositions are processed and fed back to the implicational subsystem and used to modify schematic mental models (Teasdale & Barnard, 1993). Teasdale and Barnard have referred to the reciprocal dialogue the propositional and implicational subsystems as the ‘central engine of cognition’ (Teasdale & Barnard, 1993). As will be demonstrated, central engine ‘malfunction’ is thought to give rise to a number of

processes, such as repetitive negative thinking, that are central to the onset and maintenance of psychological disorders.

The second important point about the implicational and propositional distinction is that emotion can only be generated by the implicational subsystem (Teasdale & Barnard, 1993). For a given emotion, there will be a schematic mental model which has been created based on previous situations which also elicited that emotion. When the implicational subsystem subsequently processes patterns of code which resemble that stored as the emotion-related schematic mental model, the corresponding emotion is produced. Given that schematic mental models are comprised of different types of code (for example, body-state, propositional, acoustic code), when the schematic model is activated, the emotional reaction will be experienced at different levels (for example, physiological, behavioural, affective) (Teasdale & Barnard, 1993). A unique feature of ICS is therefore the possibility for the same information to be represented at different levels. Thus, a person could remember an upsetting event at the propositional level but would not re-experience the emotion unless the information was also represented at the implicational level. Barnard and Teasdale have helpfully referred to the distinction between propositional and implicational meaning as the distinction between “knowing with the head” versus “knowing with the heart” (1991 p. 21); a distinction also often used by therapists and of crucial importance for understanding the application of ICS to a range of emotional difficulties.

Using the components of ICS described above, this review will evaluate whether ICS, as an example of a macro-theory, could contribute to, or even benefit, the theoretical understanding of psychological disorders transdiagnostically. By doing so, this review will highlight novel implications of macro-theory for clinical theory and practice.

## **Explaining transdiagnostic psychological processes using ICS**

### **Cognitive processes**

Transdiagnostic cognitive and affective processes are at the heart of psychological disorders. It is therefore essential that clinical theory can accurately account for both the cognitive and affective experiences of clients. This section will consider how ICS explains intellectualised versus emotional beliefs, repetitive negative thinking as well as broader perceptions of the self which result from maladaptive schematic mental models. In particular, this section seeks to explore the extent to which ICS can explain the existence of these processes across psychological disorders. Table 2 provides further clinical examples of how ICS can be used to understand transdiagnostic psychological processes.

**Knowing with the head versus knowing with the heart.** Whilst formerly it has not been recognised as a transdiagnostic process, clinically it is often observed that clients can know something intellectually but still hold the opposite belief at an emotional level. As an example, a depressed client may know intellectually that they are not ‘a total failure’ and may be able to list all their recent academic and social achievements, yet they still experience a ‘felt sense’ that they have failed in life. Teasdale and Barnard have argued that micro-theories, including Beck’s cognitive model, do not accurately represent what is known from cognitive science about the complexity of the human mind, particularly how the same information can be represented at different levels of meaning (Barnard, 2009; Teasdale, 1993, 1999; Teasdale & Barnard, 1993). By acknowledging that the same information can be represented at different levels ICS has the potential to model complex cognitive and emotional experiences.

As discussed previously, ICS recognises this distinction between intellectual (propositional) and emotional (implicational) meaning. Teasdale and Barnard suggest micro-theories of depression can be augmented by considering these different levels of meaning (Barnard, 2009; Teasdale, 1993, 1999; Teasdale & Barnard, 1993). In ICS, depression may be triggered by the processing of depressogenic schematic mental models, which for example encode a globally negative view of the self as a failure (Teasdale, 1993, 1999). Such models generate specific propositional meanings, such as attributing a perceived failure as being the

result of global, internal, uncontrollable and stable factors. These in turn lead to the regeneration of depressogenic schematic mental models and the production of corresponding emotions (Teasdale, 1999). Therefore in ICS, the depressed state is maintained by the interaction between intellectual *and* emotional levels of meaning.

Park and colleagues propose that since the same information can be represented at different levels of meaning, ICS can account for paradoxical experiences that clients' with anorexia nervosa experience (Park, Dunn, & Barnard, 2011). For example, individuals with anorexia nervosa often demonstrate a discrepancy between intellectual facts about the body and their felt sense about the body (for example, "objectively I know I am underweight, but I still feel fat").

Paradoxical experiences, such as those detailed above, cannot be readily explained by micro-theories, are often experienced as confusing and frustrating for clients and therapists and can often present a barrier to therapy. It is possible that the distinction between intellectual and emotional meaning in ICS explains why purely cognitive work is not sufficient at times to make a significant change to the client's belief system; working with only one type of input (propositional meaning) may not be sufficient to shift an affect-related schematic mental model. As will be discussed further below, ICS would suggest that varying the codes would have a greater impact, for example using video feedback following a behavioural experiment may be more effective than verbal feedback for creating change in the schematic mental model. Using a common language, ICS therefore has the potential to explain some of the more challenging features of psychological disorders and from this novel treatment predictions can be made.

**Schematic mental models.** In many cognitive theories, schemata are thought to be integral for understanding the onset of psychological disorders. Schemata, in the Beckian sense, are defined as structures which organise an individual's perception of the world. Negative schemata, which are thought to have a causal role in psychological disorders, develop as a result of the interaction between genetic factors, attentional and memory biases and adverse early life experiences (Beck & Haigh, 2014). They can be reduced to a specific static core belief or proposition and dictate the content of cognition is dictated by activation of a particular schema (Beck et al., 1979; Padesky, 1994). For example, in the context of depression, the negative

automatic thought “I can’t cope with even simple tasks” may reflect activation of a ‘not good enough’ schema. In ICS, schemata (or ‘schematic mental models’) are broader, more dynamic and may include sensory as well as verbal information which has been encoded (Barnard, 2009; Teasdale, 1993; Teasdale & Barnard, 1993). Therefore, in ICS specific propositions (such as “I am weak”) form just one part of the broader schematic mental model.

What is not clear from disorder-specific cognitive theories is how seemingly similar schemata and negative automatic thoughts can result in different clinical presentations. This issue is particularly pertinent to the transdiagnostic debate (Mansell et al., 2008) and is something that ICS has the potential to explain. Using ICS, Park and colleagues suggest that the exact configuration of the schematic mental model in place may subtly differ and this may account for the disorder-specific features (Park, Dunn, & Barnard, 2011). For example, there are significant parallels in terms of the content of cognition in anorexia nervosa and depression, yet these disorders present quite differently with the body being used more explicitly in anorexia nervosa to manifest psychological distress (Park, Dunn, & Barnard, 2011). As schematic mental models in ICS are comprised of input from different subsystems, it may therefore be that the schematic mental models in place in anorexia nervosa and depression differ in terms of their contribution from the body-state subsystem. There is indirect evidence in support of this: Cowdrey and Park have demonstrated that rumination in individuals with anorexia nervosa is focused on body and eating-related themes (Cowdrey & Park, 2011).

Similarly, activation of a schematic mental model ‘self as bad’ may result in a delusional belief (“they are out to harm me”), rather than a depressive cognition (“I am useless”), if arousal and agitation from the body-state subsystem contributed to the schematic mental model (Gumley, White, & Power, 1999). Whilst it could be argued that agitation is a symptom of both depression and psychosis, ICS would suggest that it is the relative weight of inputs as well as the specific constellation that determines the exact presentation.

Schematic mental models in ICS have also been used to explain the dynamic nature of cognition within a disorder. For example, two extreme schematic mental models are thought to be central to the maintenance of anorexia nervosa: ‘self in control’ and

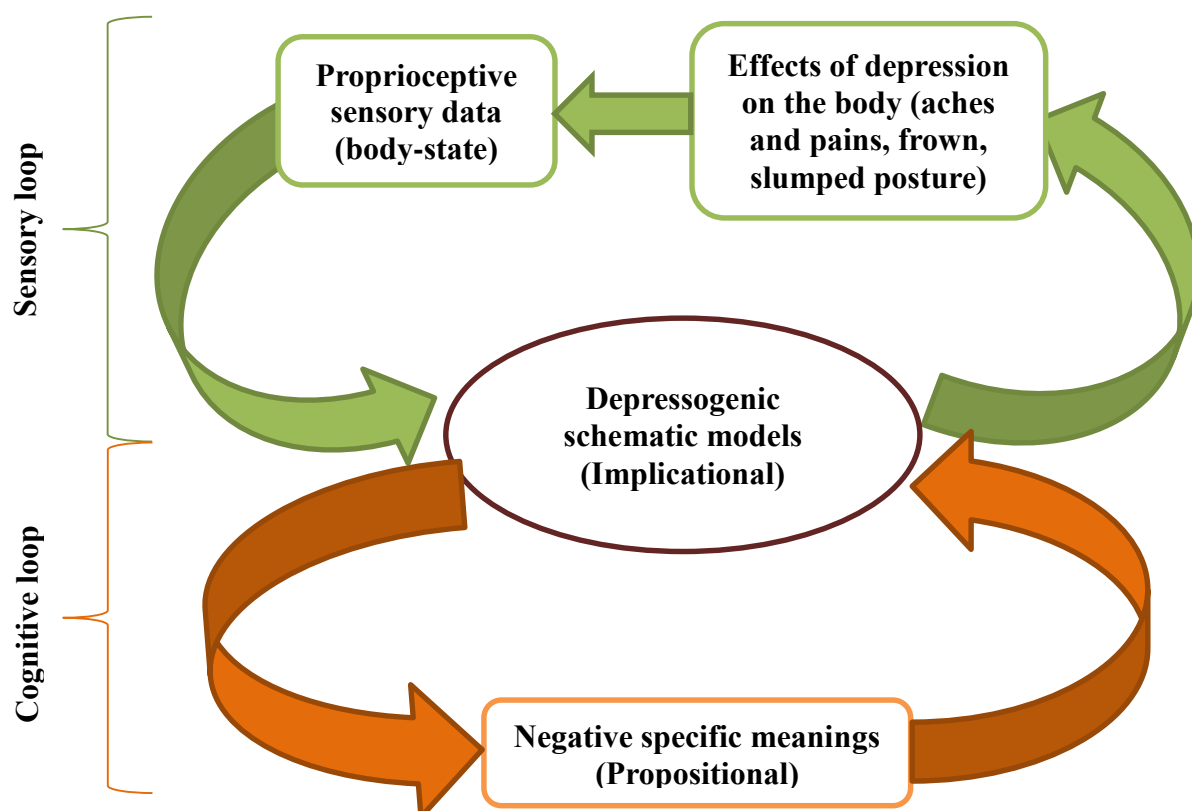
‘self out of control’ (Park, Dunn & Barnard, 2011). The schematic mental model which is in place will dictate the content of cognition at that time point. When ‘self in control’ schematic model is in place, the individual will experience high levels of ruminative thinking about eating, weight and shape and their control (Park, Dunn & Barnard, 2011). Clinically, this would be characterised by restrictive eating practices and other eating disordered behaviours which foster a sense of control. When ‘self out of control’ is in place, individuals feel disgusting, overwhelmed and fat (Park, Dunn, & Barnard, 2011). Clinically, ‘self out of control’ would be characterised by subjectively or objectively bulimic phases. Unlike micro-theories, ICS has the potential to account for shifts in the subjective experience of the self. Whilst the example of eating disorders has been drawn on, the same ICS interactions could explain features of other clinical presentations, such as the marked and rapid shift in the experience of self that characterises bipolar disorder.

**Repetitive negative thinking.** There is good evidence that repetitive negative thinking is elevated in people experiencing a range of emotional problems and is considered a transdiagnostic process (Ehring & Watkins, 2008). In order to develop effective treatments to target repetitive negative thinking, it would be advantageous to have a single theoretical framework which can be applied across clinical presentations. ICS is one possibility.

As previously discussed, the exchange of information *between* propositional and implicational meaning functions as a control loop (Teasdale, 1993, 1999). Akin to any control system, the central engine of cognition can malfunction (Barnard, 2004). Under some circumstances the control system may become stuck in a negative feedback loop, described as ‘interlock’, resulting in negative schematic mental models being continually regenerated; negative schematic models produce negative propositional outputs that, after further processing, produce inputs to the implicational subsystem that regenerate schematic mental models with the same affective tone (Teasdale & Barnard, 1993). Clinically this will manifest as rumination or other forms of repetitive negative thinking. At other times, a runaway positive feedback loop may arise which would be characterised by rapid change in the schematic model in place.

In ICS, two interconnected feedback loops are particularly important for depression maintenance. The activity of the two interlinked feedback loops is termed 'depressive interlock' (Teasdale, 1993, 1999) which reflects the self-perpetuating and ruminative nature of information processing in depression (Figure 2). In the first feedback loop, the 'cognitive loop', negative specific meanings (propositional inputs) feed into depressogenic schematic mental models (implicational meaning) which in turn generate further negative specific meanings. The second feedback loop operates via the body-state subsystem. Sensory feedback from the impact of depression on the body (for example, slumped posture, and frowning expression) regenerates the depressogenic schematic mental models and contributes to depression maintenance (Teasdale, 1993, 1999). Interestingly, a recent study has demonstrated that gait whilst walking is associated with memory for emotionally significant words (Michalak, Rohde, & Troje, 2015). In this study, undergraduate students adopted either a depressed or happy walking style and it was found that those who adopted the depressed walking style recalled significantly more self-referent negative words (Michalak et al., 2015). Whilst limited by the non-clinical sample, this study provides preliminary support for the ICS hypothesis that bodily feedback contributes to the maintenance of depression.





*Figure 2.* Depressive interlock. In depressive interlock, depressogenic schematic models are maintained by specific propositional inputs as well as sensory feedback from the body.

The two interconnected feedback loops therefore keep individuals trapped in a ruminative cycle. Depressive interlock is thought to prevent the modification of schematic mental models as information which could potentially contribute to the formation of non-depressogenic schematic mental models is not processed (Teasdale, 1999). As schematic mental models remain unmodified, the depressed state is maintained. ICS therefore indicates that a critical task in therapy is breaking interlock so that depressogenic schematic mental models can be accessed and updated. The final section of this article will consider strategies to do this.

The reciprocal interactions between the implicational and propositional levels of meaning have also been used to account for ruminative preoccupation on eating, weight and shape in eating disorders (Park, Dunn, & Barnard, 2011) and could

plausibly account for other forms of repetitive negative thinking. As an example, rumination in ICS terms reflects buffered propositional processing; such processing brings awareness to streams of ruminative thought which have been generated by the implicational – propositional cycle (Figure 2). Worry, a theoretically similar process to rumination (Borkovec, Alcaine, & Behar, 2004), has yet to be formally conceptualised using ICS. It may be that all that distinguishes worry in generalised anxiety disorder and rumination in depression is the temporal focus with rumination focused on the past and worry on the future. If the same processes were found to account for repetitive negative thinking transdiagnostically, the same treatment predictions could be made.

It is important to note that in ICS, attentional processes have a huge influence on ruminative states. How attentional processes interact with interlock to bring awareness to streams of rumination and other forms of repetitive negative thinking will be considered in the section on attentional processes.

**Table 2 ICS constructs and processes applied to clinical phenomenon**

ICS construct or component	Description	Clinical relevance and examples
<b>Schematic mental model</b>	<p>Content of the models are based on previous experiences of co-occurring multimodal inputs.</p> <p>Regenerated on-line.</p> <p>Dormant models can be reactivated by a similar constellation of inputs.</p> <p>Determines content of cognition.</p> <p>Processing results in emotionally charged felt senses of the self.</p>	<p>In depression, there may be a deep-seated sense of the self as worthless and unlovable. This schematic mental model will be derived from repeatedly co-occurring patterns of visual input (mum frowning at me), acoustic input (angry tone of mum's voice), body-state input (slumped posture, lethargy) and propositional information (being told 'I am bad' by my parents).</p>

Table 2 cont.

ICS construct or component	Description	Clinical relevance and examples
<b>Interlock</b>	<p>A self-perpetuating processing configuration can occur through ruminative, negative self-focused cognitive processing.</p> <p>Maintenance of the interlock depends on the continuous creation and regeneration of schematic mental models encoding certain themes.</p> <p>Does not allow the creation of modified, potentially more adaptive, affect-related schematic mental models.</p>	<p>Central to the maintenance of psychological disorders which are characterised by repetitive negative thinking and routine-bound or ritualised behaviour.</p> <p>In depression, interactions between the subsystems become dominated by processing information with negative, depressive content; depressogenic schematic mental models generate negative specific meanings (such as attributions for particular failures to personal, global inadequacies, or expectations of future failures and continuing depression); patterns of such meanings, in turn, regenerate depressogenic schematic mental models. The ruminative cycle is then maintained.</p> <p>Reinstatement of interlock can lead to relapse and recurrence.</p> <p>One strategy to prevent establishment of interlock configuration at times of potential relapse is to teach general ‘mind management’ skills, i.e. to disengage from ‘doing mode’ or ‘mindless emoting mode’ into ‘mindful experiencing mode’.</p>

Table 2 cont.

ICS construct or component	Description	Clinical relevance and examples
<b>Doing mode</b>	Attention held at propositional subsystem.	‘Knowing with your head’ or ‘cold’ cognition
	Relatively impersonal detached thoughts <i>about</i> the self or emotion and <i>about</i> goal-oriented strategies to deal with emotion and emotion-related problems.	Depressive interlock is an example of ‘doing mode’; here ruminative thinking <i>about</i> the self, <i>about</i> depression, <i>about</i> its causes and consequences dominate awareness.
	Focus on past or future rather than immediate, present-moment experience.	Worry in anxiety disorders may be explained by ‘doing mode’ processing. The individual thinks repetitively about threat-related information, for example, “they will look and me and think I am stupid”, “I might hurt my children.”
	Functional if used appropriately, for example when planning or problem-solving.	
	Dysfunctional if overused as it suppresses awareness of emotion and body-state.	In eating disorders, an individual might think repetitively about their weight and eating habits but remain detached from their bodily and emotional experiences and as a result are able to overcome hunger cues and resist eating.

Table 2 cont.

ICS construct or component	Description	Clinical relevance and examples
<b>Mindless emoting mode</b>	Attention held at body-state subsystem.	In mania or hypomania, individuals are immersed in and identify with their affective reactions and so their behaviour becomes driven by affect rather than cognition.
	Overwhelming awareness of emotion.	
	Individuals immersed in, and identify with, their emotional reactions, with little self-awareness, internal exploration or reflection.	When individuals experience panic attacks, they are in ‘mindless emoting mode’; overwhelmed by physiological sensations, unable to coolly reflect on their experiences.  In anorexia nervosa, people may switch into ‘mindless emoting mode’ if they notice even subtle changes in sensory or body-state feedback, such as their waist band feeling tighter after eating. Feeling overwhelmed by such experience, they may report feeling fat, disgusting and out of control.

Table 2 cont.

ICS construct or component	Description	Clinical relevance and examples
<b>Mindful experiencing mode</b>  (Sometimes also referred to as ‘ <i>being mode</i> ’ in the ICS literature).	Attention held at the implicational subsystem.  Feelings, sensations and thoughts are directly sensed as aspects of subjective experience rather than just <i>thinking about</i> them.  Focus is on the present-moment, reflexive awareness with a holistic, multisensory awareness of wider meaning.  Similar to state of mind when meditating or reading poetry	In mindfulness–based cognitive therapy, one aim is to help individuals who have a tendency to get caught-up in ruminative cycles to mindfully observe negative thought patterns rather than dwell on them; it aims to move people into mindful experiencing mode.  In anorexia nervosa, the body will be experienced as a valued part of the self when people are in this mode.  In anxiety disorders, people will notice the physiological sensations and the catastrophic thoughts but not react in the same way as either in ‘doing mode’ or ‘mindless emoting mode’.

## **Memory processes**

As described previously, memory is a key resource in ICS; there are separate memory systems for different types of mental code and procedural memory facilitates transformation processes. Further, schematic mental models are based on individuals' previous experiences of the world and are frequently re-accessed from memory.

This section is not an exhaustive or systematic explanation of all memory components using ICS, rather it serves to illustrate how aspects of ICS can be used to explain some of the memory processes which are known to be important to the onset and maintenance of psychological disorders transdiagnostically.

**Encoding and retrieval.** According to ICS, memory recollection requires activation of schematic mental models from which specific meanings can be derived (Barnard, 2004; Barnard & Teasdale, 1991; Teasdale & Barnard, 1993). In ICS, differentiation between schematic mental models has an important influence on recollection. Barnard and colleagues suggest that recollection deficits in depression may be due to little differentiation between schematic mental models compared to non-depressed individuals in that they emphasise negative themes about self, others and the world (Barnard, Murphy, Carthery-Goulart, Ramponi, & Clare, 2011). Consistent with cognitive conceptualisations of depression (Beck, 1967; Beck & Haigh, 2014), depressed individuals will have an overgeneralised negative view of the world. Barnard and colleagues propose that the similarity between negatively biased incoming information and depressive schematic mental models will prevent further processing or elaboration (Barnard et al., 2011). The schematic mental models therefore remain unmodified and the specific propositions which are generated and function as cues to previously stored memory are similar. The depressed individual may therefore struggle to recall other, potentially more positive, life events contributing to the maintenance of the depressed state. Whilst over general memory is most commonly associated with depression, there is evidence that this memory phenomenon also contributes to the development and maintenance of post-traumatic stress disorder and bipolar disorder (Dempsey, Gooding, & Jones, 2013; Williams et al., 2007). It is therefore possible that the notion of differentiation



between schematic models could be used to explain overgeneralised memory across different diagnoses. Clearly, more research is needed to explore this hypothesis.

Fragmented memories following a traumatic event have also been explained using the concept of schematic mental models. It has been suggested that if only a limited amount of the information from the environment is attended to during a traumatic event, for example the smells and sounds during the event, then the trauma schematic mental model which forms will be based on only fragments of information (Lun, 2008). Consistent with other psychological theories of trauma (for example, Brewin et al., 2010), when the trauma schematic mental model is subsequently activated, the sensory pattern encoded at the time of trauma will be re-experienced but without the necessary propositional information to contextualise the experience (Lun, 2008). This is seen clinically when working with trauma clients; clients are often unable to integrate their experiences even if all the information is available. For example, a client may be aware of visceral feelings at the time of trauma and know the sequence of events but they remain unable to connect the two experiences together which results in a high level of distress. As with existing treatment approaches, ICS would suggest that a key therapeutic task is helping clients to integrate different aspects of their experience and through doing so enable them to shift from a sense of 'self out of control' to 'self in control'.

May and colleagues have also used ICS to explain the notion of craving in those with substance dependence (May, Andrade, Panabokke, & Kavanagh, 2004). They suggest that external cues associated with a habitually used substance could be represented at any of the nine levels of code (for example, if an individual sees something which is associated with the substance it will be represented at a visual level). The code is then transformed. However, the exact nature of the transformation process is guided by an individual's learning history (procedural memory) which, for an individual with a history of substance-dependence, is stored as substance-related schematic mental models. Therefore, through a series of transformations, the cue which was initially seen visually may cause physiological changes (such as heart rate increasing). If this breaks through into conscious awareness it may be experienced subjectively as craving for the substance. Therefore, it is the initial cue that triggers craving via reactivation and regeneration of schematic mental models associated with substance-use which are stored in memory (May et al., 2004).

Schematic mental models and the interactions with other subsystems are central to the ICS understanding of memory processes. Whilst the extant literature has focused on specific disorders, it is plausible that the same ICS processes could be applied transdiagnostically. For example, craving in binge-eating disorder could be explained in a similar way to the ICS conceptualisation of craving in substance-dependence. Further, it is worth noting the marked similarity in the processes through which schematic mental models become re-activated to give rise to craving and other examples given previously, such as the re-activation of depressogenic schematic mental models. This exemplifies how the same processes within ICS can be used to explain phenomena that characterise different clinical presentations.

### **Attentional processes**

Attentional processes, such as selective attention and attentional avoidance, have been identified transdiagnostically as contributing to the maintenance of disorder (Mansell et al., 2008). Despite this, micro-theories differ in the extent to which they emphasise attentional processes. For example, the cognitive model of body dysmorphic disorder (Veale et al., 1996) identifies self-focused attention as central to the disorder's maintenance, yet attentional processes are not explicitly mentioned in the cognitive model of bulimia nervosa (Fairburn, 1981). Does this mean that when formulating and treating a client with bulimia nervosa, clinicians do not need to consider attentional processes? As macro-theories aim to provide a comprehensive framework, there is less trade-off between the processes which are made explicit and those that are minimised.

The mode of processing refers to exactly how and where attention is directed within ICS. Different modes of processing are characterized depending on whether buffered processing is occurring predominately on the propositional, implicational or one of the other subsystems (Teasdale, 1993, 1999). As the information processed by the buffered subsystem will then dominate the whole processing configuration, it may give rise to different symptoms. Interlock is a good example of what happens if the propositional subsystem is buffered. In this scenario, awareness will become dominated by intellectualised and detached thoughts about perceived discrepancies and attempts to resolve these. This mode of processing is referred to as 'doing mode' in ICS (Teasdale, 1999). Whilst 'doing mode' can be adaptive - problem-solving being a prime example of this - persistent processing in this mode will result in high

levels of repetitive negative thinking which in turn will contribute to the regeneration of dysfunctional schematic mental models (Teasdale, 1993, 1999).

Equally, when neither the propositional nor implicational subsystem is buffered, individuals will be unable to coolly reflect or demonstrate intuitive knowledge about their emotional experience; instead individuals will become overwhelmed and immersed in it. Therefore, when both the propositional and implicational subsystems are in direct as opposed to buffered mode, the individual will enter a 'mindless emoting mode' (Teasdale, 1993, 1999). 'Mindless emoting mode' is also experienced as highly aversive as individuals become 'lost' in emotional experience (Teasdale, 1999). It is thought that both anorexia nervosa and depression involve fluctuations between 'doing mode' and 'mindless emoting mode'. For example, 'doing mode' may be perceived as relatively rewarding by those with anorexia nervosa as it prevents the individual from attending to the overwhelming and aversive body-state and emotional information that characterises 'mindless emoting mode' (Park, Dunn, & Barnard, 2011).

Unlike in depression and anorexia nervosa where there is fluctuation between the different modes, for people who persistently feel overwhelmed by emotional experiences and as a result engage in self-destructive or impulsive behaviours, it is plausible that mindless emoting may be their default mode of processing. Manic episodes in bipolar disorder would be one example of this. ICS would hypothesise that in a manic state attention is held at the implicational level where there is a high rate of change in the content of the image and the schematic models represented by it (Barnard, 2004). With less attention being paid to the details and content of specific propositions, people enter a 'runaway' cognitive state in which they are immersed in and identify with their affective reactions with little self-awareness, internal exploration or reflection. This could explain some of the behavioural symptoms of a manic episode, such as individuals engaging excessively in pleasurable activities without ability to reflect on or integrate the potential consequences. Hypotheses about the processes involved in mania have some preliminary supporting evidence. For example, Lomax and colleagues used a task designed to investigate different modes of processing and demonstrated that euthymic individuals with bipolar disorder were more likely than a healthy control group to answer questions that were

consistent with an implicational mode of processing (Lomax, Barnard, & Lam, 2009).

‘Modes of processing’ in ICS therefore have the potential to explain how attentional processes contribute to the maintenance of disorders transdiagnostically. This is in contrast to micro-theories which are variable in the extent to which they consider attentional processes.

### **Somatic processes**

Information from the body has an integral role in production of emotion in ICS and is identified as an important factor in the maintenance of psychological disorders. Micro-theories differ in the extent to which they consider the role of information from the body. For example, central to the cognitive theory of panic disorders is the catastrophic misinterpretation of bodily sensations (Clark, 1986) but somatic inputs have a more subtle role in the cognitive model of obsessive compulsive disorder (Salkovskis, 1985).

In the ICS conceptualisation of depression, feedback from the body (such as slumped posture and reduced activity) reinforces interlock between specific propositional and implicational meaning (Teasdale, 1993, 1999). In contrast to depression, ICS suggests that in mania the exchanges between the propositional and implicational subsystems enter a ‘runaway state’ which is reinforced by heightened bodily activation (Barnard, 2004). Awareness of this heightened internal state is used as evidence that one has the energy and confidence to achieve a desired goal and thus may manifest as impulsive behaviour. Similarly, in people with more enduring Axis-II psychopathology, Clark (1999) suggests that the immediate connection between the implicational and body-state subsystems in ICS enables creation of vicious cycles between states of arousal, emotion production and behavioural response. As information about arousal reaches the propositional subsystem indirectly, situations which elicit arousal are not appraised and responded to ‘coolly’, but rather guided by dysfunctional schematic mental models (Clarke, 1999).

Park and colleagues suggest that in anorexia nervosa, the feedback from the body has a particularly influential role in the disorder’s maintenance (Park, Dunn, & Barnard, 2011). According to this account, patterns of body-state feedback make an equal contribution to the regeneration of anorexic schematic mental models as cognitive

feedback. Park and colleagues argue that existing cognitive frameworks of anorexia nervosa focus exclusively on the cognitive elements and neglect the important interactions between emotion and body-state feedback in the maintenance of anorexia nervosa (Park, Dunn, & Barnard, 2011; Park, Dunn, & Barnard, 2012).

ICS has not yet been theoretically applied to disorders in which misattribution of somatic sensations are central, such as health anxiety or medically unexplained symptoms. However, as ICS recognises the importance of somatic inputs in generating an emotional response, it seems plausible that ICS could augment the formulation of these disorders. For example, rather than hypervigilance to the body *per se* maintaining health anxiety (Salkovskis & Warwick, 1986), it may be the way in which information about the body is processed. A ‘doing mode’ of processing, characterised by intense awareness of intellectualised thoughts about internal and external stimuli, may drive rumination and avoidance. Therefore, shifting into an experiential mode of processing in which anxious thoughts and bodily sensations are experienced as passing events may be beneficial. In support of this, a recent trial has demonstrated that mindfulness-based cognitive therapy augments the treatment of health anxiety compared to when health anxious individuals receive usual treatment alone (McManus, Surawy, Muse, Vazquez-Montes, & Williams, 2012).

ICS, in contrast to a number of micro-theories, recognises the direct contribution that somatic processes have in emotion production which is relevant to a range of clinical presentations. However, subtle differences in the interaction between schematic mental models, propositional meanings and somatic states have may reflect disorder-specific features. Importantly, ICS gives equal weighting to sensory information. This could be particularly helpful for devising novel strategies to augment existing cognitive treatments.

### **Accounting for comorbidity**

Despite different clinical presentations, the reality is that in clinical practice individuals rarely present with one discrete disorder (Kessler, Chiu, Demler, & Walters, 2005). It is possible that the same processes may contribute to the onset and maintenance of a range of different disorders or that a particular process increases the likelihood of another occurring (Harvey, Watkins, Mansell, & Shafran, 2004). If the transdiagnostic perspective is to progress, it will be important for any theory to

be able to account for comorbidity. The extant literature on ICS has tended to explain certain processes in the context of a specific disorder; interlock explains rumination in depression, for example. However, this does not mean that other interactions cannot be occurring simultaneously and therefore give rise to symptoms which would be associated with another comorbid condition. As an example, Barnard suggests that delusional ideation is the result of asynchrony between propositional feedback to the implicational subsystem (Barnard, 2004). Whilst this specific interaction might be the defining feature of a psychotic presentation, it does not exclude other maladaptive patterns occurring simultaneously. Thus, in addition to asynchrony, interlock between the propositional and implicational subsystems could be occurring which would give rise to rumination at the same time as psychotic experiences. Thus an individual may meet diagnostic criteria for depression in addition to a psychotic disorder. Simultaneous interactions could also explain other comorbid presentations.

### **Processes involved in relapse**

Having theory which accounts for the processes involved in relapse is critical as it enables the development of techniques for preventing or managing its occurrence. In ICS, reoccurrence of *multimodal patterns* of information associated with an episode of illness is thought to contribute to relapse through reactivation of schematic mental models (Barnard, 2009; Teasdale, 1993, 1999). Importantly, it is the specific constellation of constructs (for example, visual, propositional, body-state elements) which lead to reactivation of the schematic model opposed to the activation of individual constructs. This is different to micro-theories which tend to focus on a relatively narrow set of factors, for example maladaptive cognitive patterns combined with a life stressor resulting in depression relapse (Beck et al., 1979).

In depression, patterns of co-occurring information associated with previous episodes of depression trigger reactivation of depressogenic schematic mental models (Teasdale, 1993, 1999). In anorexia nervosa, whilst the processes involved in relapse are similar to depression, Park and colleagues emphasise the role that previous patterns of body-state inputs have in reactivation of an ‘anorexic schematic mental model’ stored in long term memory (Park, Dunn, & Barnard, 2011). Further, akin to the kindling hypotheses in depression (Segal, Williams, Teasdale, & Gemar,

1996) for which there is substantial supporting evidence (for a review see Monroe & Harkness, 2005), Park and colleagues suggest that a less significant set of circumstances compared to the first episode of anorexia nervosa (for example, unintentional weight loss following exam stress) could reactivate the anorexia nervosa schematic mental model (Park, Dunn, & Barnard, 2011).

Gumley and colleagues propose that if a configuration of internal and external cues bear strong similarity to a previous episode of psychosis, schematic mental models will be accessed more rapidly than if the cues contain elements which are discrepant to previous episodes (Gumley et al., 1999). Similarly, May and colleagues suggest that if schematic mental models related to a particular substance are reactivated by internal (such as intrusive imagery) or external cues in an individual with a history of substance dependence then the existence of procedural knowledge would lead to the elaboration of specific propositional meanings about obtaining and using the substance (May et al., 2004). Thus reactivated schematic mental models may trigger craving and ultimately motivate an individual to seek out a substance.

According to ICS, relapse can therefore involve multiple and interacting sources of information. The detailed analysis of how different subsystems interact offered by ICS has implications for formulating and predicting the factors and processes involved in relapse. It could also account for changes in diagnosis over time; a subtle variation in a constellation of constructs would result in activation of a different schematic mental model which in turn would drive a different set of symptoms. For example, a configuration of internal and external cues which previously resulted in social anxiety disorder may subsequently result in depression if the configuration lacked arousal from the body-state subsystem.

### **Implications of ICS for psychological treatments**

According to ICS, it is the occurrence of multimodal patterns of information (for example, visual, propositional, body-state elements) which lead to activation of the maladaptive schematic mental models (or reactivation in the case of relapse) and give rise to symptoms associated with psychological disorder (Barnard, 2009; Teasdale, 1993, 1999). This is different to micro-theories which tend to focus on a relatively narrow set of factors. Given that ICS provides a broader and more holistic theoretical foundation, it is possible that novel treatments could be derived from it to

target the key processes which are known to contribute to the onset and maintenance of psychological disorder.

ICS broadly points to two targets for intervention: developing and encoding adaptive schematic mental models and shifting the mode in which information is processed.

The next section will consider how ICS could lead to the development of novel treatments to augment existing approaches.

### **The development of adaptive schematic mental models**

In order to avoid interlock, individuals need to develop and encode adaptive schematic mental models (Duff & Kinderman, 2006; Teasdale, 1999). Using depression as an example, Figure 3a demonstrates how schematic mental models are defined by information from a range of sources. Since ICS suggests that it is the total pattern of information that determines the meaning of the schematic mental model and the response generated, Teasdale suggests that changing a small section of the pattern will result in a shift in the overall meaning (Teasdale, 1999). For example, the implicational meaning created following task failure in Figure 3b would be different if the specific propositional meanings were combined with an upright posture and a smile.



Together the code represents a schematic mental model

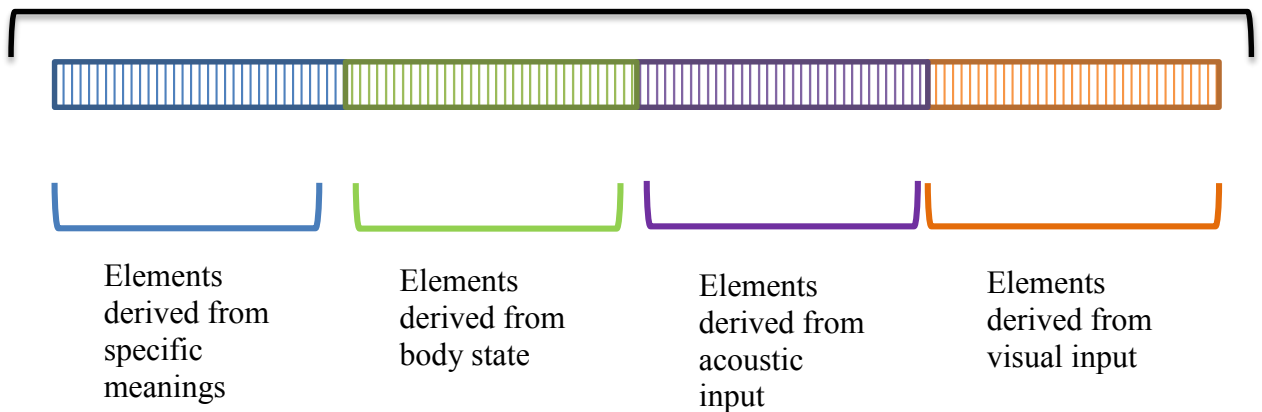


Figure 3a. A representation of a generic implicational schematic mental model. The schematic mental model is made up from specific propositional meanings as well as a range of sensory inputs to give an overall meaning. Figures 3a is adapted from “Emotion and two kinds of meaning: cognitive therapy and applied cognitive science” by J.D Teasdale, 1993, Behaviour, Research and Therapy, p.351

Schematic mental model associated with failure

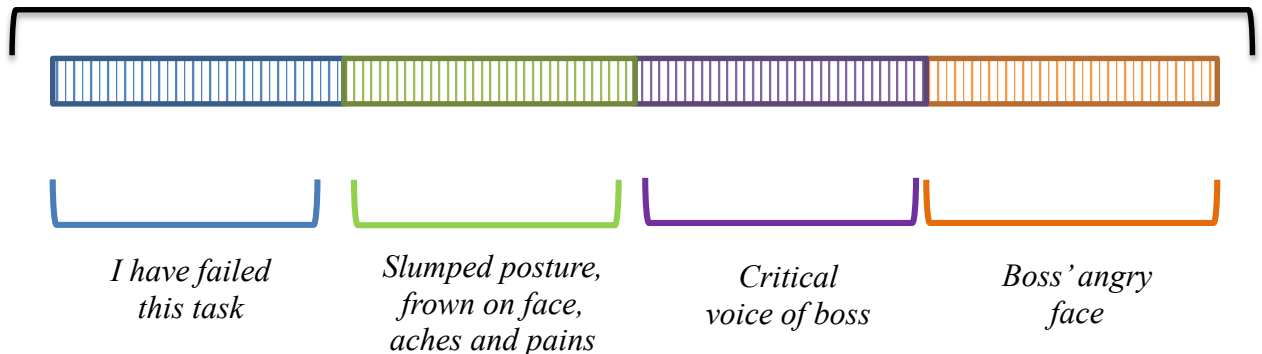


Figure 3b. A representation of a schematic mental model in depression. In depression, an individual may have synthesised the high level meaning of ‘self as a failure’ based on a range of inputs including sensory (for example, sensory feedback from a slumped posture), acoustic (boss’ tone of voice) and propositional meaning (for example, only scoring 40% in the test).

Cognitive strategies, such as cognitive restructuring, may be helpful for changing specific propositional meanings which contribute to the schematic mental model. However, as can be seen from Figure 3, there are many different elements which could be targeted that would have the same net effect of altering the overall meaning of the schematic mental model. For example, there is increasing interest in the use of physical and sensory-based interventions, such as dance movement therapy and interoceptive exposure, in reducing psychological distress across a range of psychological disorders and problems (Kiepe, Stöckigt, & Keil, 2012; Park, Dunn, & Barnard, 2012; Wald, Taylor, Chiri, & Sica, 2010). Such approaches, which focus much more on the role of sensory inputs and the body in changing higher level meanings, are in contrast to cognitive models which tend to neglect the role of such inputs. That said, behavioural experiments in CBT may alter the sensory inputs into the schematic mental model. For example, a client with panic disorder who avoids exercise for fear of a heart attack may experiment with running on the spot to test out their catastrophic cognitions. Sensory feedback from the body during the experiment would feed into the schematic mental model alongside propositional input derived from the cognitive work. The integration of the sensory and propositional input may have a net effect of altering the overall meaning of the schematic mental model. Therefore, as well as using the ICS framework to derive novel treatment strategies, it can be used to provide a theoretical justification for components of CBT.

Equally, it is possible that certain interventions which are employed routinely in cognitive therapy may be ineffective, or even unhelpful, because they reactivate and drive maladaptive schematic models. For example, Park and colleagues consider the effect of asking individuals with anorexia nervosa to complete food diaries whilst in a ruminative ‘doing mode’ of processing (Park, Dunn, & Barnard, 2012). They predict that such tasks will generate negative propositional information which will feed back into the implicational subsystem and contribute to the regeneration of maladaptive schematic models. Whilst speculative, it could similarly be argued that the use of thought records in depression could contribute to rumination on negative thoughts about self, world and future if completed whilst in a ‘doing mode’ of mind. ICS therefore provides a framework for understanding why certain therapeutic tasks may be experienced as unhelpful at times by clients.

Innovative interventions which add new elements into the schematic mental model, such as guided imagery (Park, Dunn, & Barnard, 2012) and the use of metaphor (Ylvisaker & Feeney, 1995), could shift meaning and facilitate the formation of positive schematic mental models of self. Such interventions could be paired with strategies which aim to facilitate retrieval of positive material. For example, Dalgleish and colleagues have demonstrated that currently depressed individuals and those in remission can be trained to retrieve positive, self-affirming autobiographical memories using mnemonic techniques (Dalgleish et al., 2013). Therefore, macro-theory could potentially enable clinicians to be creative in their approaches whilst being guided by theory.

### **Shifting attention**

In ICS, the generation of emotion depends on the implicational subsystem being buffered. Teasdale and others argue that cognitive strategies used in CBT target ‘cold’ propositional information and fail to facilitate buffering of the implicational subsystem (Duff & Kinderman, 2006; Park, Dunn, & Barnard, 2012; Teasdale, 1993). Using such strategies, individuals can easily change what they know (propositional meaning) but may not necessarily change how they feel. According to ICS this is problematic as without change at the implicational level, individuals are left vulnerable to relapse (Duff & Kinderman, 2006; Gumley, 2002). Therefore, to augment CBT, ICS suggests that individuals need to develop skills in noticing dysfunctional processing modes and switching to more adaptive processing modes (Teasdale, 1993, 1999).

Using the ICS framework, it has been suggested that training individuals to notice ‘doing’ or ‘mindless emoting’ modes, disengage from them and shift their attentional focus towards ‘mindful experiencing’ may reduce relapse into disorder (for example, Clarke, 1999; Duff & Kinderman, 2006; Gumley et al., 1999; Lun, 2008; Park, Dunn, & Barnard, 2012; Teasdale, 1999). In ‘mindful experiencing mode’, aversive information is purposefully attended to but not challenged or changed directly. Using depression as an example, in ‘mindful experiencing mode’, depressive thoughts are experienced as passing events in the mind which do not need to be elaborated on (Teasdale, 1999). The task of purposeful attending therefore competes with the interlock process which ICS suggests is integral to the maintenance of a range of psychological disorders and problems.

A number of therapies have been developed which aim to increase awareness of cognitive and affective experiences including mindfulness-based cognitive therapy (Segal, Teasdale, & Williams, 2002), meta-cognitive therapy (Wells & Matthews, 1996), dialectical behaviour therapy (Linehan, 1993) and acceptance and commitment therapy (Hayes, 2004). All of these have an element of mindfulness included. Mindfulness, defined as “paying attention in a particular way: on purpose, in the present moment and non-judgementally” (Kabat-Zinn, 1994 p.4) is developed through meditation practice and teaches mode management skills. According to the ICS analysis, such approaches should be helpful for disorders characterised by maladaptive cognitive processes, such as rumination (Park, Dunn, & Barnard, 2011; Teasdale, 1999). Further, specific forms of CBT have been developed to target the processes underpinning emotional problems opposed to the content of cognition. For example, rumination focused CBT aims to help people shift from unhelpful to more helpful forms of repetitive thinking using imagery, experiential strategies and functional analysis (Watkins et al., 2011). The overall aim of this intervention is to shift individuals out of an abstract-evaluative (‘Why’) mode and into a concrete-experiential (‘How’) mode (Watkins & Teasdale, 2004). As with mindfulness-based intervention, rumination focused CBT may compete with the interlock by training individuals to purposefully attend to the mode of processing and alter inputs into the system when an unhelpful processing style is identified.

It is important to note that based on the ICS analysis, some psychological problems may require more focus on the propositional subsystem and less on the emotion-laden implicational subsystem. In the case of mania, where processing is focused on general implicational meanings, strategies which help individuals to detect propositional meanings and reconcile discrepant information may be more effective (Barnard, 2004). Approaches other than mindfulness, such as cognitive remediation training, may therefore be more effective (Lomax et al., 2009).

This section has demonstrated how ICS can be used to generate treatment predictions and strategies across disorders. This represents a different way of working in that clinicians tend to switch between micro-theories depending on the specific clinical presentation. ICS encourages a coherent understanding of an individual’s difficulties that accounts for comorbidity, complexity and the role of transdiagnostic mechanisms.

### **Advantages and disadvantages of applying ICS transdiagnostically**

ICS is able to describe and explain disrupted processes that transcend diagnostic boundaries, such as attention, memory and thought processes. Treatments could therefore be developed to target the specific mechanisms or processes regardless of diagnosis. As ICS takes a holistic approach to understanding cognitive and emotional processes, innovative strategies can be developed whilst being theoretically-driven. It may also prove to be useful in explaining, predicting and guiding treatment development, particularly for processes which remain hard to shift using existing strategies. Another significant advantage of adopting macro-theories such as ICS is that a common language can be used to explain the same psychological processes.

However, there are a number of significant disadvantages which to date have overshadowed the potential advantages of using macro-theories such as ICS to advance the transdiagnostic perspective. One disadvantage is that it is hard to decipher exactly what the consequence will be when part of the system malfunctions. ICS provides the components and apparatus to explain transdiagnostic processes. As has been demonstrated in this review, further work is then required to theorise about what happens when part of the system malfunctions. That said, once core elements of ICS are understood, they can readily be applied to explain different clinical phenomena; employing the ICS conceptualisation of rumination to understand worry demonstrates this possibility.

### **Future directions**

Before macro-theories can be used to guide treatment, more empirical investigations testing out the theoretical predictions in clinical populations are necessary. The research agendas which resulted in the development of mindfulness-based cognitive therapy (MBCT) for relapse in depression (Segal, Williams & Teasdale, 2002) could be used as a model for this. In line with the research which led to the development of MBCT, the starting point would be investigating the *processes* underpinning symptoms of disorder, rather than just the content of cognition.

Whilst processes are less amenable to empirical investigation than the content of cognition, paradigms have been developed and validated. For example, in Watkins

and Teasdale's mode manipulation paradigm, originally developed to examine modes of processing in depression, participants are instructed to read statements that either induce rumination (akin to 'doing mode' in ICS) or experiential focus (akin to 'mindful experiencing mode' in ICS) (Watkins & Teasdale, 2004). These prompts have been shown to reliably induce different modes of processing across a number of disorders (Crane, Barnhofer, Visser, Nightingale, & Williams, 2007; Rawal, Williams, & Park, 2011; Vassilopoulos & Watkins, 2009). Park and colleagues have demonstrated that manipulating the mode of processing, rather than the content of cognition, can have a beneficial effect on eating disorder symptoms (Cowdrey, Stewart, Roberts, & Park, 2013). Using the results of this study, Park and colleagues have examined novel interventions for anorexia nervosa, such as mindful movement classes (Rawal, Park, Enayati, & Williams, 2009). Therefore using ICS, novel treatment strategies could be developed that are truly theory-driven and experimentally informed.

### **Closing remarks**

The question of whether unified theories of cognition and emotion could further transdiagnostic thinking has been explored using ICS as an example. It is evident that the ICS framework has been used as a tool to explain psychological processes which are central to the onset and maintenance of a wide range of clinical presentations. Despite the complexity of macro-theories, this review has demonstrated the clinical as well as academic utility of a specific macro-theory – ICS. Importantly, ICS provides a common language to express cognitive and emotional processes transdiagnostically. Macro-theories, such as ICS, may therefore have the potential to augment disorder-specific clinical theories, provide theoretical justification for aspects of existing evidence-based psychological treatments and lead to the development of novel hypotheses and treatment strategies which would be applicable across diagnoses.

Whilst the majority of papers included in this review have focused on specific disorders or symptoms, broadly similar elements of ICS have been drawn on. For example, schematic mental models, the distinction between two levels of meaning and interlock processes feature in the majority of papers included in this review. Subtle differences in the interaction between these elements of ICS can explain the

specific symptoms which characterise different disorders, such as the central engine entering a ‘runaway’ state in mania rather than interlock in depression (Barnard, 2004). ICS therefore offers a comprehensive platform for understanding the interaction of cognition and emotion across disorders and reduces the need for multiple micro-theories.

What is clear from this review is there are advantages of using ICS as a tool to delineate transdiagnostic processes, make specific predictions and guide the development of novel interventions. However, in order to further develop these proposals, there needs to be a level of intent, finance and commitment as well as a long term research horizon. Even if the clinical psychology community were to acknowledge the potential value of ICS or another macro-theory, determining how it could realistically be established and kept on the clinical psychology agenda remains a significant challenge. It may be that in the first instance, the aim should be reducing the gap between micro- and macro-theory. Rather than suggesting that clinicians needed to be *au fait* with the intricacies of ICS, the focus should be on clinicians identifying broad aspects of ICS that are relevant for the clinical domain. As demonstrated in this review, novel hypotheses and formulations can then be derived which are particularly useful for clinical presentations which are poorly understood and hard to treat. Process-focused research strategies would enable predictions to be systematically tested in clinical subjects. An alternative first step for bridging the gap between micro and macro-theory would be using ICS as a vehicle for comparing and contrasting different therapeutic approaches and providing a clear rationale for why a particular treatment works. This is particularly relevant given the increased interest in mindfulness-based approaches and other ‘third wave’ therapies across clinical presentations.

A significant limitation of this review is the sole focus on ICS as this is only one example of macro-theory. There are a number of other macro-theories such as Perceptual Control Theory (Powers, 1973; Powers et al., 1960) and The Schematic Propositional Analogical and Associative Representation Systems Approach (Power & Dalgleish, 1997) which could have equally been examined and may provide a better framework than ICS. Caution therefore has to be taken when generalising the results to the broader question of whether unified theories of cognition and emotion

could further the transdiagnostic debate. However, this review has highlighted the potential opportunities that frameworks such as ICS can offer in furthering psychological theory, research and treatment transdiagnostically. It is recommended that clinicians and academics consider carefully about how macro-theories can be used to understand different aspects of mental experience in both health and disorder and use them to guide theory, research and practice.



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**Staff attitudes towards treatment options and offering choice over treatment in  
an Early Intervention for Psychosis service**

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*This journal was selected because of its commitment to provoking thought provoking  
work that might challenge traditional ways of working and have an impact  
on service provision and clinical practice.*



## Introduction

Early Intervention for Psychosis (EIP) services aim to identify and engage people with a first episode of psychosis as early as possible to ensure timely access to evidence-based interventions. By intervening early, it is more likely that both symptomatic and functional recovery will be achieved and in turn disruption to the individuals' life will be minimised (Francey et al., 2010). In addition, early intervention reduces the social and economic costs associated with long term mental illness (McCrone, Craig, Power, & Garety, 2010).

National guidelines clearly specify which interventions should be offered to service-users (SUs) accessing EIP services. The National Institute for Health and Care Excellence (NICE) guidelines state that EIP services should aim to provide a full range of pharmacological, psychological, social, occupational and educational interventions to SUs and that oral antipsychotic medication should be offered in conjunction with psychological intervention for people with newly diagnosed schizophrenia (National Institute for Clinical Excellence, 2014). Best practice guidelines have also stressed the importance of working in collaboration with SUs and carers, taking into account their needs and preferences, and enabling individuals to make informed decisions about their treatment (National Institute for Clinical Excellence, 2011). For people with psychosis, this might include the decision to try psychological intervention without medication (National Institute for Clinical Excellence, 2014) for which there is emerging evidence (Morrison et al., 2012; Morrison et al., 2014).

Despite national guidelines and NHS policy that promote patient-led care and collaborative decision making (National Institute for Clinical Excellence, 2011), the duration of untreated illness (DUP) in psychosis is usually operationalized in terms of administering antipsychotic medication (Norman & Malla, 2001). Whilst there is some evidence that earlier intervention with antipsychotic medication may increase the chance of recovery (for a review see Alvarez-Jimenez, Parker, Hetrick, McGorry, & Gleeson, 2011), defining DUP in this way establishes medication as the '*front-line*' treatment which may make it harder for health care professionals to truly offer choice over treatment. In support of this assertion, a recent audit conducted in the UK found that less than 10% of SUs with schizophrenia were offered a

psychological intervention (Haddock et al., 2014). This highlights the need to identify barriers to the implementation of national guidelines.

A potential barrier is staff attitudes towards different treatments for psychosis. A number of studies have been conducted examining how staff attitudes influence clinical practice. In terms of treatments for people with psychosis, the majority of these studies have focused on attitudes towards maintenance medication (Waddell & Taylor, 2009). For example, one study demonstrated that psychiatrists' attitudes towards long-acting injections were associated with self-rated knowledge about the efficacy of the treatment and also prescribing habits (Patel, Haddad, Chaudhry, McLoughlin, & David, 2009). Therefore, staff attitudes towards different treatments, which may be influenced by their knowledge of the evidence-base, could pose a barrier to truly offering choice to SUs with psychosis.

In light of national initiatives and guidance emphasising the importance of involving SUs in treatment decisions, in addition to an emerging evidence-base for psychological interventions for psychosis (Morrison et al., 2012; Morrison et al., 2014), there seems to be a rationale for providing choice to SUs over their treatment. There is little research examining the implementation of this in clinical services. As an initial step, this study aims to investigate staff attitudes towards different treatment options as well as the topical issue of offering choice over treatment to SUs.

## Method

### Setting

The study was based at an EIP service over a 7-month period commencing in June 2013. The service which was commissioned in 2006 serves a catchment of approximately 262,767 people (ONS, 2011). Consistent with an EIP model of care, a service is provided for people between the ages of 14 and 35 who are experiencing a first episode of psychosis or where there are concerns that this may be developing. The service has a caseload of around 75 SUs who are approximately seen for up to 3 years. The staff team is made up of a part-time clinical psychologist, a part-time staff grade psychiatrist, a support worker, three nurse prescribers, three nurses without prescribing rights, an occupational therapist and a psychology student. The service provides a range of interventions which are tailored to meet the needs of the SUs with a view to facilitating recovery.

### Participants

The target population was all team members working clinically within the EIP service during the study period (June 2013 – December 2013). The survey was discussed and described at a team meeting before the project started.

### Procedure

**Survey development.** Based on a review of the extant literature on treatment options for first episode psychosis, a draft survey for the team was created. A team member from the EIP service, who was not directly involved in the study, provided feedback on the draft survey and further revisions were made. The final survey had 13 questions and broadly aimed to examine staff's attitudes towards different treatments for SUs with psychosis (Appendix C). Five of the questions required participants to select one or more options from a range of responses (e.g., '*What methods do you routinely use to ensure informed choice and shared decision making occur before commencing antipsychotic treatment?*'). One question asked participants to rate on a scale of 0-100 how much choice SUs' should have over commencing treatment with antipsychotic medication. Five questions required participants to rate on a scale of 0-100% how much they agreed with a particular statement (e.g., '*On a scale of 0-100, how much do you agree with the following statement "All service-*

*users with psychosis require antipsychotic medication in order to recover*”). The final two questions asked about their awareness of recent research on treatments for psychosis and whether this research had influenced their clinical practice. Copies of the survey were provided to all team members and they were invited to complete all questions on the survey whether or not they had prescribing rights. Ethical approval for the study was given by the University of Bath.

## **Data analysis**

**Quantitative analysis.** Univariate analysis (frequencies and percentages) were conducted to examine the distribution of responses.

**Qualitative analysis.** Written feedback was transcribed verbatim by the primary researcher. Data was coded and analysed using NVIVO software. The thematic analysis procedure described by Braun and Clarke was employed to analyse the data (Braun & Clarke, 2006). Comments from the different questions were coded and analysed together due to the overarching theme of the survey. All transcripts were read and key words or phrases were highlighted and used to develop codes. Individual codes were then compared and organised into themes on the basis of overlapping content. The data was reviewed to ensure that the themes worked in relation to the coded extracts. Where possible the words used by participants were included in the theme title.

Braun and Clarke (2006) recommended that researchers clearly specify their theoretical assumptions and approach to thematic analysis. The analysis was underpinned by an essentialist / realist framework, which aims to report on the experience, meanings and reality of participants (Braun & Clarke, 2006). Themes were therefore identified as the semantic level. It is also important to note that two of the researchers were psychologists working in EIP services and this may have unintentionally biased the interpretation of the data. The main researcher, a trainee clinical psychologist, held a more neutral position.

Four of the transcripts were randomly selected and given to an independent researcher with knowledge of thematic analysis to check. There was close agreement

between researchers. The interpretation of the data and the conclusions drawn were made in a meeting between the researchers.

## Results

Nine team members who were working clinically self-selected to participate; this equates to an 82% response rate. Professions represented included nursing ( $n = 4$ ), psychology ( $n = 2$ ), occupational therapy ( $n = 1$ ) and support work ( $n = 1$ )<sup>3</sup>. Two of the nine participants stated that they had prescribing rights. The mean duration of time working in EI was 4.4 years (range = 9 months - 7 years 6 months).

### Quantitative results

**Reasons for prescribing antipsychotic medication.** All team members endorsed prescribing antipsychotic medications for positive symptoms of psychosis. Other reasons included negative symptoms of psychosis (66.6%)<sup>4</sup>, mood fluctuations (66.6%), behavioural difficulties (11.1%) and need for sedation (11.1%).

**Factors that staff believe should influence which antipsychotic is prescribed.** The most frequently selected factors were evidence-base / best practice guidelines (100%), SU's specific wishes (100%), possible side-effects (100%) and previous antipsychotic medication (100%). In addition, other medication prescribed and the nature and characteristics of symptoms were rated as important factors by the majority of participants (89% and 78% respectively). Other factors included coexisting medical problems (56%), third-party views (56%), risk of medication non-compliance (56%), severity of symptoms (33%) and familiarity for prescriber (33%).

**Methods used to ensure informed choice and shared decision-making about starting antipsychotic medication.** All team members said that they would discuss a range of alternative treatments (including non-pharmacological), explain the possible side effects and allow the SU time to make their decision. Other common methods included: weighing-up the benefits and risks of different medications with the SU (86%), providing the SU and third parties with written information (86%), explaining verbally how antipsychotics work (86%), signposting to educational resources on the internet (71%), discussing SUs goals and values

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<sup>3</sup> Not all participants provided details of their profession.

<sup>4</sup> The percentages listed indicate the number of participants who endorsed the item.

(71%), ensuring involvement of third parties (71%) and using other educational material (43%).

### **Confidence around not recommending antipsychotic medication to SUs.**

This item referred to the factors that would make a clinician feel confident in *not* recommending any antipsychotic medication to a SU. All of the team members endorsed ‘*if the SU is engaging well in psychological therapy*’. Eighty-nine percent of participants selected if the SU was still engaging in routine activities. Other commonly endorsed items included if the SU had a short DUP (57%), the SU was engaging well with EIP workers (43%), or if the SU was below 20 years old (43%). A range of other circumstances were selected including if assessment measures indicated a less severe presentation (29%), the profile of symptoms was less severe (29%), the SU did not live alone, the SU had a supportive family (14%) and the SU was deemed to be low risk to self and others (14%).

### **Circumstances most likely to lead staff to consider antipsychotic**

**treatment for SUs<sup>5</sup>.** The most commonly identified circumstances included if the SU was not engaging well in psychological therapy (75%) or with EIP workers (63%), if the SU was withdrawing from daily activities (75%) or if they had a more severe symptom profile (63%). Half of the participants identified risk as being a key factor. Team members also endorsed: a long DUP (38%), no physical health complications (38%), comorbid psychological problems (25%), SU living alone (25%), SU not having a supportive family (12.5%) and SU being over 20 years old (12.5%). Twenty five percent of participants selected ‘*other*’ to this question. Other circumstances listed included having a short DUP and if the SU was experiencing a high level of distress.

**Choice over treatment.** Only four respondents (44.4%) felt able to rate on a scale of 0 to 100, how much choice they believed SUs should have over commencing antipsychotic treatment from none at all (0) to choice being essential (100). The mean rating given was 85 and the responses ranged from 50 - 100.

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<sup>5</sup> This item did not distinguish between SUs who had already been offered antipsychotic treatment and refused, and those who had never been offered antipsychotic medication.

**Antipsychotics as the first line treatment.** Six participants (66.6% of sample) indicated how much they agreed with the statement '*antipsychotics must always be the first line of treatment for people with psychosis*'. The mean percentage agreement was 16.7% and the range was 0 - 75%.

**Not prescribing antipsychotics is a realistic option.** There was significant variability when participants were asked how much they thought that offering no antipsychotic medication as a choice is a realistic option. Of the seven participants who completed this item, responses ranged from 0 - 100%, the mean percentage agreement being 49.2%.

**Views on antipsychotics and recovery.** Of the seven participants who indicated how much they agreed with the statement '*all SUs with psychosis require antipsychotic medication in order to recover*', the mean percentage agreement was 29.2% (range = 0 - 60%).

**Risks associated with not prescribing.** Seven of the nine participants rated how much they agreed with the statement '*there are too many possible risks to delay the introduction of antipsychotic medication to people with a first episode of psychosis*'. Whilst the responses ranged from 0-75%, the mean percentage agreement was only 17.1%.

**Advocating psychological interventions.** When asked whether team members advocate the use of psychological interventions, such as CBT, with the same vigour as antipsychotic medication to SUs, the mean percentage agreement from eight responders was 91.3%. Responses ranged from 50 - 100%.

**Research influencing practice.** When asked whether they were aware of research evidence suggesting that the efficacy of antipsychotic medication for psychosis has been overstated, two thirds ( $n = 6$ ) of participants indicated that they were aware of this research and of these, all participants indicated that such research had influenced their practice.

The majority of participants also said that they were aware of research evidence which suggests that CBT may be an effective first line intervention for medication naïve or those who have ceased antipsychotic medication (77.8%).



However, only 55.6% of these participants said that such research influenced their clinical practice.

### **Qualitative results**

The coding scheme included six main themes and 29 sub themes (Table 1). Each main theme is presented and supported by verbatim excerpts.

*Table 1 Themes extracted from the qualitative analysis*

<b>Main themes</b>	<b>Sub themes</b>
<i>Staff attitudes towards different interventions</i>	Disadvantage of antipsychotics
	Effectiveness of medication
	Antipsychotics /drug approaches
	Making other interventions accessible
	Not medicating
	Usefulness of other medications (non-antipsychotics)
	Benefits of CBT
	Engagement
	Order of interventions offered
	Service-level influences
<i>Decision-making around treatment with medication</i>	Clinician led decision
	Informed choice
	Service-user led decision

Table 1 cont.

Main themes	Sub themes
<i>Factors influencing prescribing</i>	Mental Capacity
	Individual characteristics of service-user
	Duration of untreated psychosis
	Effectiveness of medications
	Engagement
	Not medicating service-users
	Role of third party
	Severity of symptoms
<i>Process of prescribing medication</i>	Introducing antipsychotics to service-users
	Professionals involved in discussions around medication

*Table 1 cont.*

<b>Main themes</b>	<b>Sub themes</b>
<i><b>Provision of services</b></i>	Making other interventions accessible
	Order of interventions offered
	Range of interventions offered
	Service-level influences
	Usefulness of other medications (non-antipsychotics)
<i><b>Research influencing practice</b></i>	Focus of research
	Research quality

**Attitudes towards different interventions.** Participants commented on their attitude towards antipsychotic treatment as well as other non-pharmacological approaches offered by the service. Some reflected on the effectiveness of antipsychotics, but identified the side effects of taking antipsychotics as a disadvantage. Participants highlighted that there are a range of pharmacological interventions other than antipsychotics, for example benzodiazepines, which may be associated with less side effects. A number of participants also commented that they felt antipsychotics could reduce symptoms so that psychological interventions could be accessed.

*“Antipsychotics are sedating. Sometimes this is really helpful to minimise distress so that psy [psychological] work can be effective. However, sedation can be achieved by short-term benzos.”* [Participant 2]

As well as recognising the effectiveness of antipsychotic medication, participants recognised how well some SUs do without any medication. Specific benefits of psychological interventions were also identified.

*“I believe that some service-users can benefit from just challenging their beliefs and CBT, especially if they have had a short DUP and if there isn’t as much conviction behind their beliefs.”* [Participant 8]

Other participants felt that relying purely on non-pharmacological interventions were dependent on the SUs level of engagement. There was also a sense that service-level factors<sup>6</sup> may prevent non-pharmacological interventions being used as a first line treatment and that the default position was for medication to be considered first.

*“I am always advocating for CBT, but there are some service level limitations e.g. early detection stuff.”* [Participant 5]

*“The reality is that it [CBT] usually comes as second wave.”* [Participant 1]

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<sup>6</sup> Participants did not clearly articulate what exactly the service-level factors were.

**Decision-making regarding treatment with medication.** Participants identified that in some circumstances the decision-making regarding treatment with medication would be more led by the clinician, but other times it would be led by the SU. Participants highlighted that informed choice was an essential part of the decision-making process.

*“Where they [service-users] have capacity, they should have 100% choice, but sometimes we think it [medication] is needed despite the service-user not being keen. If we can offer choice regarding an alternative to antipsychotics, that is ideal (e.g., benzos).”* [Participant 5]

*“I don’t advise on medication but always promote the service users right to ask questions and research their medication if they wish.”* [Participant 9]

**Factors influencing prescribing.** Participants felt that there were a number of factors which influenced prescription of antipsychotic medication including the SUs’ capacity to make treatment-decisions, the DUP, individual characteristics of the person and their presentation, the role of third parties, engagement with service and professional’s knowledge about the effectiveness of antipsychotic medication.

*“I think the DUP is the crucial bit- the longer the DUP the more likely it is that medication will be required.”* [Participant 6]

*“If people will engage in other treatments – i.e. psy [psychological interventions], are supported well by family/friends, and are able to occupy themselves, not offering meds is a realistic option. For people who are unable /unwilling to the above it is not a realistic option to not offer meds.”* [Participant 3]

**Process of prescribing medication.** Participants reflected on the process of introducing medications to SUs. Some participants suggested that certain health care professionals, particularly those with prescribing rights, should undertake initial conversations with SUs regarding medication. However, there was also a sense that the medical model dominated when introducing SUs to medications and that this was a negative thing.

*“Medics often sell **TREATING** psychosis- like it is an underlying thing rather than a state of mind.”* [Participant 5]

**Provision of services.** Participants highlighted that EIP services offer a range of interventions, other than just medication, and that SUs are rarely offered just one type of intervention. However, some participants felt that the medical model still dominated which meant that the first line intervention was medication. In some cases, it was felt that this was necessary in order to make other interventions accessible. Conversely, other participants attributed the order of interventions to service-level factors.

*“EI research and team discussions ensure the team approach reflects varied interventions of which medication has its place.”* [Participant 7]

**Research influencing practice.** There was evidence that research on the effectiveness of antipsychotic medications and non-pharmacological interventions did influence practice. However, a number of participants identified limitations of using the research to guide practice including overstated effects, poor quality and employing inappropriate measures.

*“Research is poor, contradictory or badly interpreted. Also not measuring good quality med management.”* [Participant 1]

## Discussion

The aim of this study was to examine the attitudes of a multidisciplinary staff team towards different treatment options for people with psychosis and the issue of SUs having choice over their treatment. The results from the quantitative analysis indicated that a range of factors are considered when determining whether a SU should commence antipsychotic medication and different strategies are employed to encourage informed choice and shared decision-making. Capacity to make treatment decisions, DUP and general engagement with the service as well as psychological interventions were identified as a crucial in influencing the staffs' attitudes towards SUs having choice over their treatment and whether antipsychotic medication should be the first line of treatment. The results from the qualitative analysis highlighted the challenge for staff in balancing possible side effects of antipsychotic medication with effectiveness and the usefulness of antipsychotic medication for reducing distress in order for other interventions to be accessible. The limitations of using research to guide practice were also discussed.

Staff identified DUP as a key factor that influenced their view of treatment options for EIP SUs, particularly whether an individual should commence antipsychotic treatment. This fits with the prevailing definition of DUP which uses administration of antipsychotic medication as the marker (Norman & Malla, 2001). Interestingly, there were contrasting opinions as to whether a long versus short DUP was related to the ease of reducing psychotic symptoms. There is evidence that DUP is related to response to *both* pharmacological and psychological treatments for psychosis; a meta-analysis has demonstrated that a shorter DUP is associated with greater response to antipsychotic medication (Perkins, Gu, Boteva, & Liberman, 2005) and Morrison and colleagues have demonstrated that CBT for those who have chosen not to take antipsychotic medication is particularly efficacious for those with a shorter DUP and those presenting at a younger age (Morrison et al., 2012). Therefore, the assertions made by staff in this EIP service are broadly in line with the evidence-base; a short DUP indicates a better response to treatment. However, the analysis demonstrated a lack of awareness that DUP may also be associated with outcome from psychological treatment.



A qualitative study examining subjective experiences of taking antipsychotic medication reported that SUs experience side effects such as lethargy, mental slowing and restlessness (Carrick, Mitchell, Powell, & Lloyd, 2004). This research is relevant to the current study as EIP staff felt that the introduction of antipsychotic medication may help *reduce* distress and arousal which in turn would enable the SU to access psychological interventions. However, it is possible that side effects of antipsychotic medication may affect their ability to engage with psychological approaches. Staff should be mindful of this, particularly if the main rationale for prescribing antipsychotics is to reduce distress so that they have the capacity to engage in psychological interventions.

Mental capacity of SUs had a significant influence on the attitude towards SUs having choice over treatment. Some staff felt that SUs should have choice over treatment if they retained decision-making capacity, but if they lacked capacity it may be in their best interest for clinicians to decide on the course of treatment. However, some reported that in practice a more biological conceptualisation of psychosis dominated and therefore medication was generally considered before other interventions. The NICE guidelines for psychosis recommend that SUs and their families have the right to choose psychosocial interventions without antipsychotic medication (National Institute for Clinical Excellence, 2013, 2014) and therefore it is important that SUs are made aware of all possible treatment options from the outset of their contact with services.

The implementation of robust research findings into clinical practice is critical for increasing the overall standard of care for SUs and improving outcomes (Geddes & Harrison, 1997). In this study, two thirds of staff that completed the survey were aware of research suggesting that the efficacy of antipsychotic medication for psychosis has been overstated (see Hutton et al., 2012). Those who knew about this reported that it had influenced their practice. Interestingly, more staff were aware of research indicating that CBT may be effective for SUs who are medication naïve, yet only half of these said that such research had influenced their practice. This may in part be due to this programme of research being relatively new. As more research is completed in this area, it may be helpful for staffs' knowledge

on different treatment options to be updated regularly as this may in turn lead to attitudinal and behaviour change.

### **Implications for service-improvement**

In line with best practice guidelines, EIP services should adopt a consistent strategy so that the range of evidence-based interventions are explained to SUs in the first instance, independent of the clinician's professional training or personal attitude towards different treatments for psychosis. An objective evaluation of the advantages and disadvantages of different treatment options should be conducted with all SUs and significant others. An appropriate package of care should then be determined collaboratively taking into account the SUs preferences, needs, values and decision-making capacity.

There is a need to ensure that EIP teams are aware of relevant research in the field, such as developments in psychological therapy for people with psychosis, and learn the necessary skills to critique such research. Rather than passive dissemination of research findings, it may be helpful for them to adopt specific strategies to encourage implementation and ensure clinical practice maps onto research findings. EIP network days, in which EIP teams from across a region come together, would be a good opportunity to share research findings and consider how such findings could influence clinical practice. Support from EIP team managers would be critical for integrating such research into clinical practice.

### **Limitations**

The sample size was small and participants were recruited from one EIP service, therefore the results may not be generalizable. In addition, it is possible that certain professions were not represented by the results; not all the team completed the survey and of those who did, the participant's profession was not always indicated. A central and critical question to staff was how much choice they believed SUs should have over commencing an antipsychotic medication. Unfortunately this was answered by only four staff members. Therefore, all that can be concluded from this finding is that a minority of the total sample felt able to say SUs should have more choice rather than less.

## **Future directions**

The perspectives of SUs were not represented in this study and their perception of choice over treatment may be different to EIP staff. Future research should therefore examine the views of SUs and compare the responses to that of professionals; this research is currently underway (see Appendices D, E and F). The attitudes of the staff team reported in this study may be influenced by social desirability and may not necessarily directly map onto practice and so there needs to be further research into how staff attitudes affect practice and how staff keep abreast of and integrate research developments into practice.

## **Conclusions**

This study examined staff attitudes towards treatment options for psychosis and whether SUs should have choice over their treatment. The results suggest that there are a number of factors that influence staff's attitudes towards different treatments and that these factors may make offering choice to SUs difficult.

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*See Appendices D, E and F for additional work relating to the current paper including a second SIP entitled “Is there a choice to make? Service-users’ experiences and attitudes towards treatment in an Early Intervention for Psychosis service”*

**Parental anxiety, parent-child talk and psychological adjustment following  
child trauma**

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Word count (minus references, tables, figures and legends): 5494

Journal aiming for: The Journal of Anxiety Disorders (see Appendix G)

*This journal was selected as it encourages submissions which further the etiological understanding of anxiety disorders (including PTSD) in children and adults. It is also an interdisciplinary journal and so has a broad audience.*



## **1. Introduction**

Symptoms associated with post-traumatic stress (PTS) are commonly experienced by children after involvement in a frightening event such as a road traffic collision or sporting accident. Symptoms may include re-experiencing of the event, hyperarousal, avoidance and mood alterations (American Psychiatric Association, 2013). Whilst such symptoms decline rapidly and naturally for the majority of children, a significant minority will report persistent difficulties (Le Brocq, Hendrikz, & Kenardy, 2010); a meta-analysis including 34 studies reported that 36% of children and adolescents developed post-traumatic stress disorder (PTSD) after exposure to a frightening event (Fletcher, 1996). Left untreated, PTSD can have a chronic course, coexist with other disorders such as anxiety and depression, and lead to long term psychosocial impairment (Bolton, O'Ryan, Udwin, Boyle, & Yule, 2000; Pine & Cohen, 2002; Salter & Stallard, 2008). Despite this, the potential psychological impact of trauma exposure in childhood is often neglected (Sabin, Zatzick, Jurkovich, & Rivara, 2006; Stallard, Velleman, & Baldwin, 1998). This may in part reflect the lack of theoretical or experimental research in this area (Meiser-Stedman, 2002). In order to develop psychological interventions for children experiencing PTS and preventative interventions for those at risk, there is a pressing need to first establish factors that predict good versus poor psychological adjustment, particularly as exposure to a frightening event is necessary but not sufficient for PTSD onset (Trickey, Siddaway, Meiser-Stedman, Serpell, & Field, 2012).

There are a number of well validated cognitive models which have proven clinical utility for understanding the onset and maintenance of PTSD in adults (Brewin, Dalgleish, & Joseph, 1996; Ehlers & Clark, 2000; Foa, Steketee, & Rothbaum, 1989). Ehlers and Clark (2000) suggest that PTSD is the result of poorly integrated and elaborated trauma memories combined with threat appraisals of the trauma and sequelae which result in a current sense of threat. This sense of threat is maintained by cognitive and behavioural strategies which prevent the updating and reconfiguration of the trauma memory. Based on this conceptualisation, cognitive behavioural therapy (CBT) for PTSD aims to help individuals integrate and elaborate the trauma memory, challenge negative appraisals of the trauma and its sequelae and reduce unhelpful cognitive and behavioural strategies (Ehlers, Clark, Hackmann, McManus, & Fennell, 2005).

In the child and adolescent trauma literature, research has highlighted a number of child-related factors which contribute to the development and maintenance of PTS (Brosbe, Hoefling, & Faust, 2011; Trickey et al., 2012). Negative appraisals of the event or aftermath (Ehlers, Mayou, & Bryant, 2003; Paul Stallard & Smith, 2007), maladaptive coping strategies such as distraction (Stallard, Velleman, Langsford, & Baldwin, 2001) and rumination (Ehlers et al., 2003; Meiser-Stedman et al., 2014) and more sensory-laden and disorganised memories of the trauma (Salmond et al., 2011) have been identified as important. Such factors parallel those identified in the adult PTSD literature and therefore the targets for psychological therapy may be similar. However, for children, it is also important to consider the developmental context in which the trauma occurs, and more specifically the role of parents in helping children adjust (Pynoos, Steinberg, & Piacentini, 1999; Salmon & Bryant, 2002).

Few studies have considered the role of parents in the aftermath of a frightening event (Trickey et al., 2012). In the child anxiety literature, theoretical models have identified parental anxiety as a significant risk factor in the development of child anxiety (Creswell, Murray, Stacey, & Cooper, 2011; Murray, Creswell, & Cooper, 2009). One way in which parental anxiety may increase the risk is through the parenting style that is adopted. There is substantial evidence that controlling and overprotective parenting is associated with anxiety in offspring (Chorpita & Barlow, 1998; Hudson & Rapee, 2004; McLeod, Wood, & Weisz, 2007; Rapee, 1997) and this parenting style is seen more commonly in anxious parents. Parental overprotection, defined as a parenting style which is unusually restrictive and controlling when it comes to protecting a child from potential threat (Edwards, Rapee, & Kennedy, 2010), is theorised to stifle the child's opportunity to develop independence, self-competence and mastery which in turn is likely to reinforce avoidance and promote the idea that the world is a dangerous place (Murray et al., 2009; Van der Bruggen, Stams, & Bögels, 2008).

There is a good theoretical rationale for examining the relationship between parental overprotection, parental anxiety more broadly and the development of PTSD in children; whilst appraisals in PTSD relate to past opposed to impending threats, the way in which the traumatic event and sequelae are processed creates a sense of current threat (Ehlers & Clark, 2000). This is similar to the cognitive

conceptualisations of anxiety disorders in which appraisals of upcoming threat is central to the onset and maintenance of the disorder (Beck, 1976; Clark & Beck, 2010). Therefore, the factors that have been shown to contribute to the development of child anxiety, such as parental anxiety and associated parenting styles, may also influence child psychological adjustment following trauma. There is preliminary support for this; after a natural disaster, increased parental control and avoidance has been shown to predict child PTSD ‘at-risk’ status (Cobham & McDermott, 2014).

The *way* in which parents talk to their children also has the potential to influence trauma memory coherence and therefore the development of PTSD. Parent-child interactions are integral for developing the skills necessary to organise effectively information in memory and to recall relevant information (Fivush, Haden, & Reese, 1996; Fivush, Haden, & Reese, 2006). Vygotsky suggested that when parents reminisce with their children they are helping them learn the forms and functions of talking about their past, are helping them resolve complex emotional experiences and are scaffolding linguistically their memory recall (Vygotsky, 1978).

As well as parents varying in the extent to which they reminisce with their children, there are individual differences in the quality of such interactions, with some parents using a more elaborative style than others (Fivush et al., 2006). Elaborative parents tend to provide more information cues, encourage elaboration on what they have said, keep conversations going instead of curtailing them prematurely and use more confirming and evaluative feedback (Sales, Fivush, & Peterson, 2003). A number of studies have demonstrated that children of parents who are more elaborative in reminiscing about past events develop more sophisticated autobiographical memories for positive and negative events (Conroy & Salmon, 2006; Peterson, Sales, Rees, & Fivush, 2007; Sales et al., 2003). Such effects have been shown to be independent of factors such as the child’s language ability, temperament, attachment or self-awareness (Fivush et al., 2006; Fivush & Nelson, 2006). Further, parents are relatively consistent in the level of elaboration used when talking with their children which suggests it is a relatively stable phenomenon (Haden, 1998).

In summary, the available evidence indicates that talking to children in an elaborative and topic-extending way has a facilitative effect on children’s memory for a specific event. Given the centrality of poorly integrated and elaborated

memories in the development and maintenance of PTSD (Ehlers & Clark, 2000; Salmond et al., 2011), engaging in elaborative reminiscing following a traumatic event may improve child adjustment. From the child anxiety literature it is known that parental anxiety, and more specifically parenting style, is likely to influence the child's perception of themselves, others and the world around them. To date, no study has examined the effects of elaboration, parental anxiety and overprotection in the context of child trauma.

The current study aims to examine two main hypotheses:

- (1) Parental anxiety and overprotection measured 2-6 weeks after a traumatic event will explain a significant amount of variance in child PTS symptoms and broader psychological adjustment (symptoms associated with anxiety and depression) three months post-trauma.
- (2) Degree of parental elaboration when discussing the trauma will predict child PTS symptoms and broader psychological adjustment (symptoms associated with anxiety and depression) over and above the effects of parental anxiety and overprotection three months post-trauma.

The predictive utility of parental anxiety, overprotection and elaboration will remain even after controlling for injury severity and relevant demographic variables.

## **2. Materials and methods**

Children aged 6-13 years who had experienced a potentially traumatic event resulting in attendance at one of four emergency departments (EDs) were invited to take part along with their parent or guardian.

Exclusion criteria included intellectual disability that precluded main stream schooling (including autism spectrum disorders), history of organic brain damage, currently presenting with self-injurious behaviour or suicidal intent, inability to speak English (assessed by ED records) and involvement of social services.

### **2.1 Procedure**

This study was part of a larger program of research investigating parental responses to child experiences of trauma. Only the procedures relevant to the current study will be discussed. Potential participants were identified by research nurses and clinicians who provided an invitation letter to the parent and child. If verbal assent was provided, potential participants were followed-up with a telephone call from a member of the research team within two weeks of attendance at the ED. If the parent-child dyad agreed to take part, a home visit was arranged 2-6 weeks after the trauma. Two researchers conducted the home visits. One researcher worked primarily with the child and the other with the parent. After talking with the researcher about the events which led them to attend the ED, both the parent and child were invited to complete a set of questionnaires (detailed below). The parent and child were then brought back together to complete a joint narrative task in which they were asked to talk together about the traumatic event. Approximately three months after the initial visit, a second set of questionnaires were sent for completion. A monetary reward was given to each dyad. The study was given ethical approval (Ref: 13/SC/0599, Appendix H) and informed consent was obtained from the parent and assent from the child.

## 2.2 Measures

### **Demographic and trauma variables.**

Objective indices of trauma severity (including triage category, Glasgow Coma Scale and number of injuries) and demographic information were assessed by collecting clinical information from the ED and from interviews with participating families. In line with previous studies in this area (for example, Salmond et al., 2011), the interview schedule included items relating to the household (members, income, occupation of parents), the participating child's learning and health needs (including psychological) and trauma characteristics.

### **Child psychological adjustment following trauma.**

*The UCLA PTSD Reaction Index for DSM-IV (PTSD-RI)* (Steinberg, Brymer, Decker, & Pynoos, 2004). The PTSD-RI is a self-report questionnaire to screen for exposure to traumatic events and assess PTSD symptoms in school-age children and adolescents. Part one assesses 14 types of trauma exposure using yes / no format. Part two contains items to assess PTSD symptoms which map directly onto DSM-IV Criterion B (intrusion), Criterion C (avoidance) and Criterion D (arousal). The child rates the frequency of symptoms in the past month (rated from 0 = none of the time, to 4 = most of the time). A cut-off of 38 or greater for a single incident traumatic event has the greatest sensitivity and specificity for detecting PTSD (Rodriguez, Steinberg, Saltzman, & Pynoos, 2001). It has been demonstrated in previous studies that the PTSD-RI has good to excellent internal consistency (total symptoms  $\alpha = .90$ ) and convergent validity (Elhai et al., 2013; Steinberg et al., 2013).

For the purpose of this study, both child and parent versions of the PTSD-RI were used and respondents rated each symptom with respect to the event that led to ED attendance. Only the parent was asked to rate the child's prior trauma exposure. Internal consistency for the current study was good (child version  $\alpha = .82$ ; parent version  $\alpha = .85$ ). The PTSD-RI was completed at both assessment time points.

*Revised Child Anxiety and Depression Scale- 25 (RCADS-25)* (Ebesutani et al., 2012). The RCADS-25 is a self-report measure of depression and anxiety symptoms for children and adolescents consisting of 25 items. Items are rated on a four point scale from 0 = never to 3 = always. The RCADS-25 yields three scores: total

anxiety, total depression and total anxiety and depression. A standardized  $T$  value of 70 or above indicates scores above the clinical thresholds for anxiety and depression. The psychometric properties of the RCADS-25 are comparable to those obtained on the original version 47-item of the RCADS in terms of reliability, internal consistency (anxiety  $\alpha = .71$ ; depression  $\alpha = .79$ ), test-retest stability, parent-child agreement and convergent and divergent validity (Ebesutani et al., 2012). Internal consistency was good in the current study (anxiety  $\alpha = .88$ ; depression  $\alpha = .86$ ). The RCADS-25 was completed at both assessment time points.

### **Parental psychological adjustment following trauma.**

*Post Traumatic Diagnostic Scale (PDS)* (Foa, Cashman, Jaycox, & Perry, 1997). The PDS contains 49 items which correspond to DSM-defined PTSD. The first section identifies potentially traumatic events and respondents rate whether they have experienced the event, their response to it and the time of its occurrence. Using a four point scale, respondents then rate 17 items representing the cardinal symptoms of PTSD experienced in the past 30 days. Symptom severity scores above 11 indicate moderate to severe symptom levels. For the purpose of this study, parents were asked to rate each with respect to the event that led to their child attending the ED and total symptom scores were calculated. The PDS has been shown to have excellent internal consistency ( $\alpha = .92$ ), strong test-retest reliability ( $r = .83$ ) and good diagnostic agreement with the DSM-IV (Foa et al., 1997). The internal consistency in the current study was excellent ( $\alpha = .91$ ).

*Depression Anxiety and Stress Scale (DASS-21)* (Lovibond & Lovibond, 1995). The DASS-21 is a self-report measure of negative emotional states in adults which is comprised of three seven-item scales measuring depression, anxiety and stress. Although it is not diagnostic, scores above 19 for stress, 10 for anxiety subscale and 14 for depression indicate above moderate levels of symptomatology. The DASS-21 has good psychometric properties, with good internal consistency demonstrated in previous studies for all subscales ( $\alpha = .82$  to  $.93$ ) (Brown, Chorpita, Korotitsch, & Barlow, 1997; Henry & Crawford, 2005). The internal consistency in the current study ranged from questionable to good (depression  $\alpha = .77$ ; anxiety  $\alpha = .69$ ; stress  $\alpha = .87$ ). The DASS-21 was completed at both assessment time points.

*Parental Overprotection Measure (PO)* (Clarke, Cooper, & Creswell, 2013; Edwards, Rapee, & Kennedy, 2008; Edwards et al., 2010). The PO is a 19 item self-report measure which assesses the extent to which parents' restrict a child's exposure to perceive threat. The PO has been shown in previous studies to have high internal consistency for mothers and fathers of children up to 12 years old ( $\alpha = .89$ ), strong 12-month test-retest reliability and it correlates with observed parental overprotection during parent-child tasks (Clarke et al., 2013; Edwards et al., 2008, 2010). Internal consistency was excellent ( $\alpha = .91$ ) in the current study.

### **Joint narrative task.**

The parent-child dyads constructed a joint narrative of the trauma via a standard set of instructions (Appendix I). The dyads were invited to talk to each other about the frightening event. They were encouraged to begin just before the event happened and include information about what happened afterwards. There was no time constraint and the researchers were out of sight in another room.

After the dyads had completed the first part of the narrative task, the researchers re-entered the room and instructed them to discuss the causes, consequences and ways of coping following the event, based on standard prompts (Appendix J). Prompts served to guide the parent to include certain topics. Following Halligan and colleagues' method (Halligan, Michael, Clark, & Ehlers, 2003), the parent and child were asked to rate separately their levels of arousal and distress during the task on 0-10 visual analogue scales.

### **Coding.**

All narratives were video-recorded, transcribed verbatim and checked for accuracy before chunking into utterances and coding. Utterances were identified from the transcripts on the basis of grammatical units (defined as an independent clause containing a subject and verb). A second rater chunked 25% of the transcripts. The consistency of chunking was excellent (intra-class correlation coefficient = .99).

Only parental utterances were coded. The two sections of the narratives (pre-, post-prompt cards) were coded separately. As there were no significant differences in the



frequency of elaboration codes applied before and after the prompt cards ( $p > .05$ ,  $d = -.22$  to  $.46$ ), total scores are reported.

Parental utterances were coded into the following categories modified from (Fivush & Fromhoff, 1988) (Table 1) (Appendix J): (a) Memory question elaborations, (b) Memory question repetitions, (c) Yes-no question elaborations, (d) Yes-no question repetitions, (e) Evaluations. A composite score was calculated for each parent based on the number of different codes assigned (Peterson et al., 2007). The composite score took the form of a ratio and was based on: the number of elaborations (including both memory question elaborations and yes-no question elaborations) + the number of evaluations divided by the number of elaborations + evaluations + repetitions. As well as reducing the number of variables, the ratio functioned to correct for the variable narrative lengths.

Two trained coders independently coded 20 % of all narratives for reliability. The consistency of coding between the two raters was excellent (intra-class correlation coefficients ranging from  $.92$  to  $.99$ ).

**Table 1**

*Example elaboration codes used to analyse the joint narratives*

Code	Description	Example
<u>Memory question</u>		
Elaboration	Question tries to elicit new information from the child as well as incorporate new information within the question.	<i>"What happened when we were in the ambulance?"</i>
Repetition	Question tries to elicit new information from the child but does not itself contain any new information.	<i>"Who was there at the hospital?"</i> and in the next conversational turn the parent repeats <i>"There were other people there, who was there?"</i>
<u>Yes-No question</u>		
Elaboration	Child is required to confirm or negate new information provided by the parent.	<i>"Were the paramedics wearing a green uniform?"</i>
Repetition	Child is required to confirm or negate previously mentioned information.	<i>"Was it hot in there or cold?"</i> and in the next conversational turn the parent repeats <i>"Was it hot?"</i>

*Table 1 cont.*

<u>Evaluation</u>		
Negation	Statements that negate the child's previous utterance.	Child " <i>I think we waited to see the doctor for 30 minutes.</i> " Parent " <i>It was much longer than that.</i> "
Confirmation	Statements that confirm the child's previous utterance.	Parent " <i>What did the doctor tell you?</i> " Child " <i>To relax.</i> " Parent " <i>To relax. That's right.</i> "

### 2.3 Participants

Two hundred and seventy young people were screened at the ED. Of these, 42 participants completed the initial assessment (15.5 % of total screened). Reasons for not being enrolled in the study included: not contactable by the number provided (41.7%), not interested (17.5%), the child and/or parent not perceiving the event or aftermath as frightening (8.3%), the nature of the injury being too severe (1.3%), having a sibling recruited into the study (2.2%), time required to commit (5.7%), living outside of the recruitment region (.9%), not being able to complete the first visit within the time window (7%) and other reasons (3.5%). Participants did not significantly differ from the non-participants on gender, trauma type, age, Glasgow Coma Scale (GCS) on arrival or number of injuries (all  $p > .05$ ,  $d = -.21$  to  $.24$ ).

#### **Demographics and trauma symptoms**

At the time of the first home visit, children ranged from 6 to 12 years old, with a mean age of 9.7 ( $SD = 2.2$ ) years (Table 2). Over half the children were male and the majority of the parents were female with a mean age of 40.24 ( $SD = 6.7$ ) years. Events which led to attendance at the ED consisted of road traffic accidents or collisions, falls, burns, sporting accidents and acute illness. A minority of the children had been admitted to a high dependency or intensive care unit and a minority were considered resuscitation patients.

**Table 2** *Demographic and trauma related variables*

<b>Measure</b>		
<u>Demographic measures</u>		
Child age in years <i>M (SD)</i>	9.7	2.2
Child gender ( <i>male</i> ) <i>N %</i>	25	59.5
Child ethnicity <i>N %</i>		
White	33	78.6
Asian	1	2.4
Other	2	4.8
Missing data	14.3	6
Annual household income <i>N %</i>		
≤ £19,999	5	16.7
£20,000 - £39,999	10	23.5
£40,000 - £59,000	8	19
£60,000 - £89,000	6	14.2
≥ £90,000	3	7.2
Missing data	8	30
Marital status ( <i>N %</i> married / cohabiting)	34	71
Number of siblings <i>M (SD)</i>	1.45	.89
<u>Prior contact with mental health services or school SENCO <i>N %</i></u>		
Some prior contact	5	11.9

Table 2 cont.

<b>Measure</b>		
<u>Trauma characteristics</u>		
Triage category <i>N</i> %		
1	6	14.3
2	13	31
3	11	26.2
4	5	11.9
Missing data	7	16.7
Number of injuries <i>M</i> ( <i>SD</i> )	1.98	1.44
GCS on ED arrival (3-15) <i>M</i> ( <i>SD</i> )	14.25	2.68
Ambulance used (yes) <i>N</i> %	25	59.5
Number of days in hospital <i>M</i> ( <i>SD</i> )	3.83	6.84
Resuscitation patient <i>N</i> %	9	21.4
Admitted to HDU	4	9.4
Admitted to PICU	3	7.1
<u>Type of event</u> <i>N</i> %		
RTA / RTC	15	35.7
Burn / scald	2	4.8
Sudden and life threatening illness	3	7.1
Sporting injury	6	14.3
Fall	9	21.4
Other accidental injury	6	14.3

Table 2 cont.

<b>Measure</b>		
<u>Participating parent characteristics</u>		
Age in years <i>M (SD)</i>	40.24	6.70
Relationship to child <i>N %</i>		
Mother	33	78.6
Father	9	21.4
<u>Parental education <i>N %</i></u>		
School until 16 years old	8	19
School / college until 18 years old	6	14.3
Further education (for example, college or vocational course)	11	26.2
Undergraduate degree	10	23.8
Postgraduate degree	7	16.7
<u>Employment status</u> ( <i>N %</i> full / part-time work)	32	76.2
<u>Parent present at the trauma</u> (yes) <i>N %</i>	19	45.2
Undergraduate degree	10	23.8
Postgraduate degree	7	16.7
<u>Employment status</u> ( <i>N %</i> full / part-time work)	32	76.2
<u>Parent present at the trauma</u> (yes) <i>N %</i>	19	45.2
<i>Note.</i> GCS Glasgow Coma Scale; HDU High Dependency Unit; PICU Paediatric Intensive Care Unit; RTA/ C Road traffic accident / collision <i>M</i> = mean; <i>SD</i> = standard deviation		

The mean duration of time from the traumatic event to the baseline assessment was 29.45 days ( $SD = 17.37$ ). At the initial assessment, two children (4.7% of the total sample) scored above the threshold for probable PTSD on the parent-rated version of the PTSD-RI (Table 3). Based on child-report, no children scored above the threshold on the PTSD-RI. On the RCADS-25, three children (7.1%) had scores which were above the clinical threshold for depression and two (4.7%) for anxiety. On the PDS, 14 parents (33.3%) scored in the moderate or above range for PTSD symptoms. On the DASS-21, five parents (11.9%) scored in the moderate or above range for stress, eight (19.1%) for symptoms of depression and three (7.1%) for symptoms of anxiety.

As shown in Table 3, there was no significant change in symptom scores on the RCADS-25, DASS-21 depression and stress subscale, and PTSD-RI between the two assessments (all  $p > .05$ ,  $d = .24$  to  $.63$ ). There was a significant difference between the two assessments in terms of parent self-report anxiety symptoms ( $t(41) = -3.34$ ,  $p < .05$ ,  $d = -1.04$ ) with parents reporting less anxiety at the second assessment. At follow-up, the same number of children scored above the threshold for probable PTSD on the PTSD-RI. On the RCADS-25, two children (5.8%) had scores which were above the clinical threshold for depression and two (5.8%) for anxiety. Three months post-trauma, four parents (11.1%) scored in the moderate or above range for stress, three (8.3%) for symptoms of depression and two (5.5 %) for anxiety.



**Table 3***Child and parent symptom measures*

<b>Measure</b>	<b><u>Time 1</u></b>	<b><u>Time 2</u></b>	<b><u>P value</u></b>
<u>Child symptom measures</u>			
<u>PTSD-RI child report</u>			
Total symptom severity <i>M (SD)</i>	11.95 (7.67)	13.03 (9.73)	.47
<u>TSD-RI parent report</u>			
Child prior trauma exposure			
None <i>N %</i>	33 (80.5)	Not collected	
One <i>N %</i>	5 (12.2)	Not collected	
Two <i>N %</i>	2 (4.9)	Not collected	
Three <i>N %</i>	1 (2.4)	Not collected	
Symptom severity <i>M (SD)</i>	12.05 (10.95)	12.49 (9.73)	.77
<u>RCADS-25</u>			
Depression <i>M (SD)</i>	5.97 (5.94)	3.97 (4.47)	.10
Anxiety <i>M (SD)</i>	9.31 (9.23)	8.33 (7.82)	.41
Total anxiety and depression <i>M (SD)</i>	14.84 (14.73)	12.37 (9.76)	.28
<u>Adult symptom measures</u>			
<u>PDS</u>			
Number of prior traumas <i>M (SD)</i>	1.32 (1.17)	Not collected	
Symptom severity <i>M (SD)</i>	12.36 (12.51)	Not collected	
Impairment (0-9) <i>M (SD)</i>	2.28 (3.10)	Not collected	
<u>DASS-21</u>			
Depression <i>M (SD)</i>	5.40 (9.26)	5.12 (5.81)	.56
Anxiety <i>M (SD)</i>	3.85 (5.23)	2.41 (3.77)	.002
Stress <i>M (SD)</i>	10.63 (9.5)	9.24 (7.60)	.91
<u>PQ</u> <i>M (SD)</i>	30.13 (15.85)	Not collected	

*Note.* PTSD-RI PTSD Reaction Index for DSM-IV; RCADS-25, Revised Child Anxiety and Depression Scale; PDS Post Traumatic Diagnostic Scale; DASS-21 Depression Anxiety and Stress Scale; PQ, Parental Overprotection Measure;  
*M* = mean; *SD* = standard deviation

## **2.4 Data analysis strategy**

Analyses were conducted on the data set using SPSS 15.0 for Windows (Statistical Package for Social Sciences, SPSS Inc.). An alpha level of .05, two-tailed, was used for statistical testing unless otherwise specified. Histograms were plotted to assess for normality (Appendix K). Not all variables followed a normal curve. Parametric and non-parametric correlations were therefore tested and as the results did not vary, parametric statistics were employed.

### **Preliminary analysis.**

The preliminary analysis functioned to identify variables which may confound the main analysis. Based on previous research which has shown gender differences in self-reporting of anxiety and depression symptoms (for example, Henry & Crawford, 2005) and also parental elaboration (Zaman & Fivush, 2013), the potential effect of gender (both parent and child) on predictor and outcome variables was examined. A series of independent samples *t*-tests, corrected for multiple comparisons, assessed whether there were significant differences in predictor (parental anxiety, overprotection and elaboration) or outcome variables (child PTS symptoms and child anxiety and depression) between male and female participants.

Zero-order correlations assessed the potentially confounding effects of child age, trauma severity (indexed by triage category), parental distress and arousal during the narrative and parental trauma symptoms on predictor (DASS-21 anxiety subscale, PO and elaboration ratio) and outcome variables (child PTS symptoms and child anxiety and depression). Consistency in the parent and child versions of the PTSD-RI was also examined.

**Main analysis.**

Hierarchical multiple regressions were used to test the extent to which parental anxiety, overprotection and degree of elaboration measured during the initial assessment explained the variance in continuous measures of (1) child PTS symptoms three months post-trauma and, (2) child anxiety and depression symptoms three months post-trauma. Potential confounding variables identified in the preliminary analyses were entered into the regression models.

**Power calculation.**

An a priori power calculation was conducted for the regression analyses using G\*Power. With three predictor variables, a sample size of 68 participants would be needed to have a power of 0.8 for detecting a medium effect size.

### 3. Results

Of the 42 parent-child dyads who completed the initial assessment, four (9.5%) did not complete any of the questionnaires at follow-up (Figure 1). Either the parent or child follow-up data was missing for a further six parent-child dyads (child  $N = 4$ , parent  $N = 2$ ). Where possible, the data was entered into the analysis (for example, if child follow-up data missing, parent data could still be entered). There was no significant difference in those who did versus did not complete the follow-up questionnaires on child age, GCS on arrival, number of injuries, parent trauma symptoms (as measured by the PDS) or parental anxiety or depression at the initial assessment (all  $p > .05$ ,  $d = -.01$  to  $.23$ ).

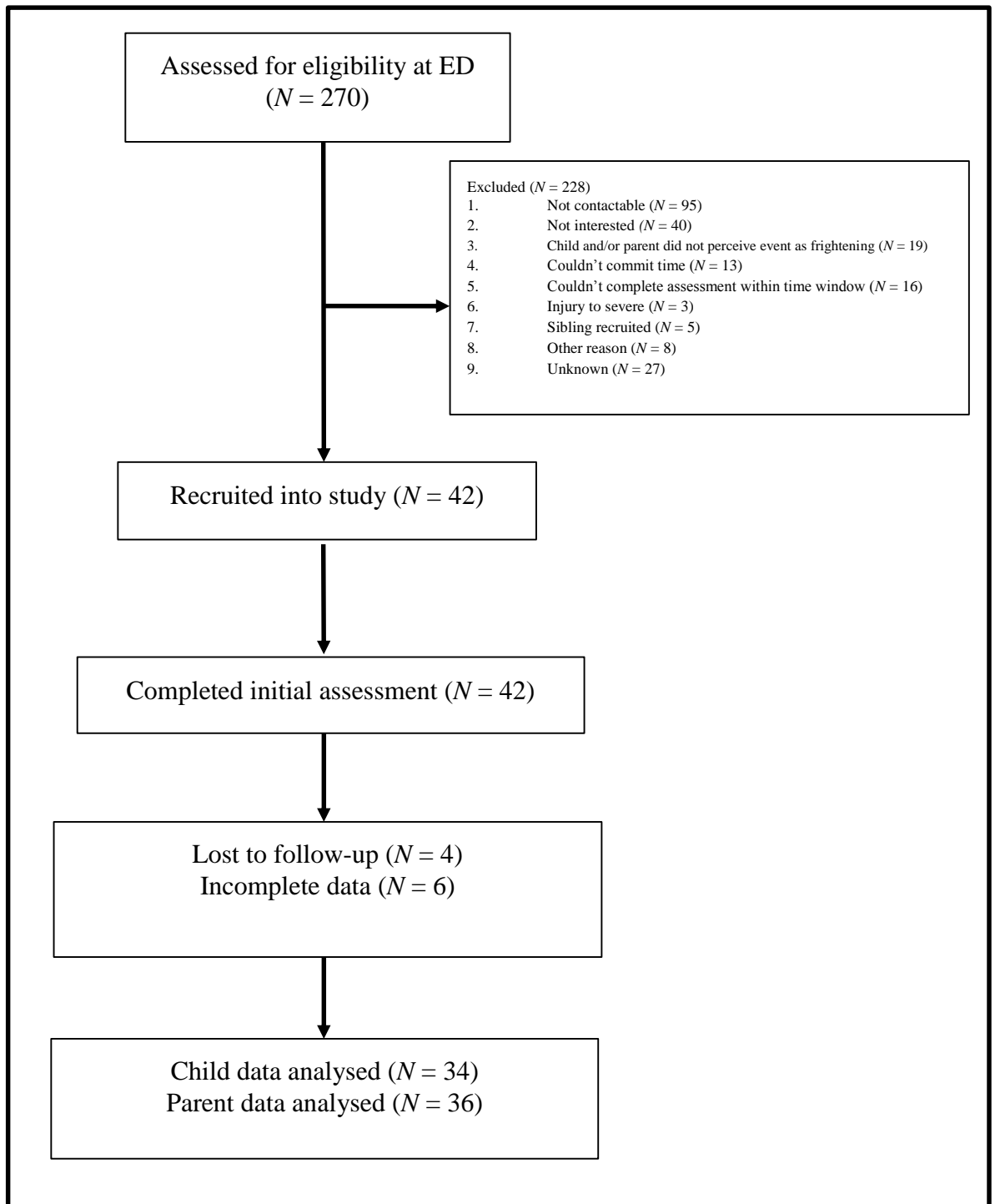


Figure 1. Participant flow and drop-out

### 3.1 Preliminary analysis

Degree of elaboration and scores on the DASS-21 and PDS did not significantly differ between male and female parents ( $p > .05$ ,  $d = -.08$  to  $.07$ ). There was a significant difference between male and female children on anxiety and depression (as measured by the RCADS-25) ( $t(40) = 3.24$ ,  $p \leq .001$ ,  $d = 1.02$ ) with females scoring significantly higher than males. Child gender was therefore controlled for where the RCADS-25 was the outcome variable.

As shown in Table 4, the anxiety subscale of DASS-21 was significantly correlated with symptom scores on the PDS, such that parents reporting higher anxiety also reported greater PTS symptoms. Child triage category was significantly associated with parental PTS symptoms, with more serious medical problems on admission associated with higher parental symptoms. There were no other significant correlations. As the severity of the child's trauma was significantly associated with parent PTS symptoms, it was controlled for in the regression analyses.

There was no significant difference between the child- or parent-reported severity scores on the PTSD-RI ( $p > .05$ ,  $d = .37$ ) and there was a significant correlation between the two versions that was moderate-large in magnitude ( $r = .48$ ,  $p = .003$ ) suggesting consistency in parent and child symptom report. As there was more complete data for parents than children, the parent-rated PTSD-RI was used as the primary outcome measure.

**Table 4***Correlations between parent, child, trauma and joint narrative variables*

Pearson's <i>r</i>	PO	PTSD-RI (parent version)	Narrative distress and arousal	Child Age	Triage category	DASS-21 anxiety	Elaboration ratio	RCADS anxiety and depression	PDS
<b>PO</b>	1.0								
<b>PTSD-RI (parent version)</b>	.11 <sup>ns</sup>	1.0							
<b>Narrative arousal and distress</b>	.05 <sup>ns</sup>	-.11 <sup>ns</sup>	1.0						
<b>Child age</b>	.02 <sup>ns</sup>	.08 <sup>ns</sup>	.25 <sup>ns</sup>	1.0					
<b>Triage category</b>	-.09 <sup>ns</sup>	-.35 <sup>ns</sup>	.13 <sup>ns</sup>	.13 <sup>ns</sup>	1.0				
<b>DASS-21 anxiety</b>	.31 <sup>ns</sup>	.65**	-.13 <sup>ns</sup>	.04 <sup>ns</sup>	-.24 <sup>ns</sup>	1.0			
<b>Elaboration ratio</b>	-.14 <sup>ns</sup>	.06 <sup>ns</sup>	-.06 <sup>ns</sup>	.07 <sup>ns</sup>	-.26 <sup>ns</sup>	-.03 <sup>ns</sup>	1.0		
<b>RCADS anxiety and depression</b>	-.20 <sup>ns</sup>	.21 <sup>ns</sup>	-.04 <sup>ns</sup>	-.05 <sup>ns</sup>	-.11 <sup>ns</sup>	.22 <sup>ns</sup>	-.14 <sup>ns</sup>	1.0	
<b>PDS</b>	.26 <sup>ns</sup>	.66**	-.08 <sup>ns</sup>	-.12 <sup>ns</sup>	-.59**	.64**	.23 <sup>ns</sup>	-.04 <sup>ns</sup>	1.0

*Note.* DASS-21, Depression Anxiety and Stress Scale; PO, Parental Overprotection Measure; RCADS-25, Revised Child Anxiety and Depression Scale; PDS Post Traumatic Diagnostic Scale.

\*\*  $p < .001$ ; ns = non-significant (two- tailed)

### **3.2 Effects of parental anxiety, parental overprotection and elaboration on child PTS symptoms**

All assumptions for multiple regression analyses were met. A three step hierarchical regression analyses was conducted with parent-rated PTSD-RI three months post-trauma as the dependent variable and parental anxiety, overprotection and elaboration measured at the initial assessment as predictor variables (Table 5). Child triage category was entered at step one to control for symptom severity. Parental anxiety (as measured by the anxiety subscale of the DASS-21 at the initial assessment) and parental overprotection were entered at step two and degree of elaboration at step three. At step one, triage category contributed significantly to the regression model ( $F(1, 34) = 5.44, p < .05$ ) and accounted for 12 % of the variation in PTSD-RI scores. Introducing parental anxiety and overprotection explained an additional 34.7% of variation in PTSD-RI and this change in  $R^2$  was significant ( $F(3, 32) = 11.08, p < .001$ ). The addition of elaboration to the regression model did not explain any additional variance on the PTSD-RI. When all predictors were included in the model, parental anxiety was the only significant predictor. Overall the model was significant ( $F(4, 31) = 8.10, p < .001$ ) and accounted for 46.7% of the variance in PTSD-RI scores<sup>1</sup>.

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<sup>1</sup> The analysis was replicated using the child-rated PTSD-RI total scores. There was a significant correlation between the PTSD-RI and the DASS-21 anxiety subscale ( $r = .45, p \leq .01$ ). However, the regression model did not significantly predict child-rated PTSD-RI scores at any step. None of the variables entered were significant predictors of child-rated PTSD symptoms at three months.



**Table 5**

*Hierarchical multiple regression analysis predicting PTS symptoms in children three months after a traumatic event*

<b>Variable</b>	<b><math>R^2</math></b>	<b><math>\beta</math> (standardized)</b>	<b><math>T</math></b>	<b><math>p</math></b>
<i>Step 1</i>	.12			
Triage category		-.35	-2.33	.025
<i>Step 2</i>	.47			
DASS-21 anxiety		.63	4.93	< .001
PO		-.11	-.88	.39
<i>Step 3</i>	.47			
Elaboration ratio		.02	.12	.91

*Note.* DASS-21, Depression Anxiety and Stress Scale; PO, Parental Overprotection Measure.

### 3.3 Effects of parental anxiety, parental overprotection and elaboration on child anxiety and depression symptoms

A second three step hierarchical regression analysis was conducted with total anxiety and depression on the RCADS-25 three months post-trauma as the dependent variable, and parental anxiety, overprotection and elaboration at the initial assessment as predictor variables (Table 6). Child gender was entered with triage category at step one. The model did not significantly predict child anxiety and depression at any step. None of the variables entered were significant predictors of child anxiety and depression.

**Table 6**

*Hierarchical multiple regression analysis predicting depression and anxiety symptoms in children three months after a traumatic event*

Variable	$R^2$	$\beta$ (standardized)	$T$	$p$
<i>Step 1</i>	.08			
Triage category		-.13	-.84	.41
Child gender		-.26	-1.68	.10
<i>Step 2</i>	.18			
DASS-21 anxiety		.30	1.88	.07
PO		-.26	-1.62	.12
<i>Step 3</i>	.22			
Elaboration ratio		-.19	-1.24	.22

*Note.* DASS-21, Depression Anxiety and Stress Scale; PO, Parental Overprotection Measure.

#### **4. Discussion**

This study was one of the first to examine parental variables that predict child psychological adjustment following a traumatic event. In line with the first hypothesis, parents' ratings of their own anxiety explained a significant amount of variance in child PTS symptoms, as rated by the parents, three months after the event and this was independent of injury severity. Neither parental overprotection nor the degree of elaboration significantly predicted child PTS symptoms or broader psychological adjustment. These results have theoretical implications for understanding child trauma, more specifically understanding the role of parents in the aftermath of a traumatic event.

The finding that parental anxiety predicted child PTS symptoms supports and builds on previous theory and research. For example, the role of parents has been highlighted in etiological models of anxiety in children. Rapee proposes that there is a bidirectional relationship between parent and child anxiety; child anxiety elicits different patterns of involvement from anxious parents which in turn reinforces child anxiety (Hudson & Rapee, 2004; Rapee, 1997). Murray and colleagues identify specific mechanisms through which parental anxiety is transmitted and suggest that anxious parents are more likely to convey threat information and model anxious and avoidant behaviour to their children (Murray et al., 2009). Threat-related appraisals of traumatic events and avoidance are also key variables in the development of PTSD (Ehlers & Clark, 2000). It is plausible that parental anxiety influences child PTS symptoms via their anxious appraisals of the traumatic event; such appraisals may increase the sense of current threat in the child, promote avoidant coping, and ultimately prevent elaboration and consolidation of the trauma memory.

Overprotective parenting has been identified theoretically and empirically as a risk factor for child anxiety (Chorpita & Barlow, 1998; McLeod et al., 2007). It is therefore surprising that in the current study, overprotection did not predict child symptoms. Whilst unexpected, this finding does not entirely diverge from existing studies; Clark and colleagues examined the relationship between overprotection and child and parental anxiety in both clinically anxious and non-anxious children (Clarke et al., 2013). In line with the current results, they found

that scores on the PO were not significantly associated with maternal expressed anxiety or child anxiety status, and that overprotection did not predict child anxiety symptoms (Clarke et al., 2013). One possible explanation is that the effect of overprotection is a function of child age. Longitudinal and cross-sectional studies of pre-school children have consistently documented a relationship between overprotection and child anxiety (Edwards et al., 2008, 2010) suggesting that overprotection could have a more toxic effect on younger children. Further, it has been suggested that observational methods may be a more reliable way of assessing overprotection (Affrunti & Ginsburg, 2012); this may be particularly relevant for non-clinical samples where the effects are likely to be smaller.

Given the centrality of memory consolidation in the development and maintenance of PTSD (Brewin et al., 1996; Ehlers & Clark, 2000; Foa et al., 1989), it is surprising that degree of parental elaboration during the joint narrative task was not associated with child symptoms three months after the traumatic event. The facilitative effect of parental elaboration on memory may be more potent for younger children who are learning the function of talking about past events and developing memory skills to augment such (Fivush et al., 1996). In support of this, studies examining the effect of parental elaboration on memory formation in children have tended to recruit pre-school and reception aged children. Older children and adolescents, such as those recruited for the current study, may be more skilled at forming coherent memories and are therefore less reliant on their parents for input. Therefore, individual differences in parental elaboration may be less influential on the child.

It is possible that the non-significant findings for parental overprotection and degree of elaboration are a result of the modest sample size. A number of effect sizes reported for non-significant findings were in the moderate to large range which interestingly parallels similar studies in this field. For example, Meiser-Stedman and colleagues followed-up 59 children after a frightening event and reported that maladaptive appraisals significantly predicted child symptoms six months after the event. The effect sizes reported were in a similar range to those reported here ( $M = 0.52$ ) (Meiser-Stedman et al., 2009). Further, a systematic review identified a number of studies where parental control predicted adolescent

anxiety overtime with effect sizes in the small to medium range (Waite, Whittington, & Creswell, 2014). It may therefore be that had the current study had more statistical power, the independent variables would have explained more variance in child PTS symptoms.

#### **4.1 Limitations**

The results should be interpreted with a number of study limitations in mind. The study was underpowered statistically and the follow-up period was short; therefore conclusions should be treated cautiously. Whilst there were no significant differences in a number of trauma and demographic variables between those who did versus did not take part in the study, the recruitment rate was low. This may limit the generalizability of the results. Further, more anxious and avoidant parents and children would have been less likely to consent to the study. The study may therefore underestimate the impact of anxiety and related parenting styles on child outcome. The small sample size prevented the different aspects of elaboration being tested as predictors of symptoms; collapsing the individual codes into one construct may have masked more subtle effects (Fivush et al., 2006). Further, the analysis was not able to test for the bidirectional relationship between parental and child anxiety that has been identified in the literature (for example, Hudson & Rapee, 2004; Rapee, 1997). Lastly, anxiety measures completed at the initial assessment (for example, RCADS, DASS-21) may have been inflated by the occurrence of the recent traumatic event. It is therefore uncertain as to whether the results reflect trait or state anxiety. Including a pre-injury anxiety measure or employing a prospective design would resolve this.

#### **4.2 Future research directions**

A number of avenues for further research are indicated. Recovery trajectories of children who have experienced accidental injury have demonstrated that natural recovery continues for up to six months post-injury in some children (Le Brocque et al., 2010). Future research should therefore examine whether parental anxiety predicts child PTS symptoms six months after follow-up. Such research is currently underway. If found to be significant, the exact mechanisms through which parental anxiety contributes to child adjustment following a traumatic

event should be investigated. Based on what is known from the child anxiety literature about the role of parents (Murray et al., 2009), a good starting point would be examining the content of what parents say to their children whilst talking about traumatic events. Particular attention should be paid to the content of appraisals (degree of threat and vulnerability) and promotion of avoidant coping in the aftermath of a traumatic event. Further, in light of research demonstrating that fathers are more elaborative than mothers when reminiscing with their children on past events (Zaman & Fivush, 2013), and also that anxious fathers confer unique risk to the development child anxiety (Bögels & Phares, 2008), the differing roles of mothers and fathers in the development of child PTS symptoms following trauma should be considered. Whilst a strength of the current study was the inclusion of both mothers and fathers, the relatively small number of fathers prevented subgroup analyses being conducted.

A novel aspect of this study was the collection of both parent and child-report of child PTS symptoms. Most studies to date have focused on either the parent or child. Whilst both were collected, due to the small sample size, only the parent-report data was included in the main analysis. This may be problematic as studies have demonstrated poor concordance between parent and child reporting of PTS symptoms (Shemesh et al., 2005) in part owing to parents' own distress biasing their reporting of child symptoms (Stover et al., 2010). In the current study, there was no statistically significant difference between parent and child report. However, the results were not replicated when a sub analysis was conducted using the child-report of PTS symptoms. Whilst this finding has to be interpreted with caution due to the small number of children who completed the measure at the second assessment, it leads to the question of whether parental anxiety does explain variance in child PTS symptoms or whether this finding is an artifact of the parents' biases which may or may not be related to their own symptoms of psychological distress. Further research should consider using both parent and child-report of child PTS symptoms and examining the potential impact of the parent's own distress on their interpretation of child symptoms.

### **4.3 Conclusions**

Severity of child PTS symptoms three months after a traumatic event was predicted by parental anxiety, but not overprotective parenting or degree of elaboration. This pattern was not seen for the broader psychological outcomes of child anxiety and depression. These data provide the first empirical evidence that parental anxiety, a risk factor for the intergenerational transmission of anxiety more generally, is also related to PTS symptoms in children three months after a traumatic event. In order to develop clinically useful models of PTSD in children, further research is needed to examine other possible mechanisms through which parental anxiety contributes to child PTS symptoms; existing cognitive models of child anxiety and adult PTSD could be used to guide such research.

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## **Executive summary of main research project**

### **Parental anxiety, parent-child talk and psychological adjustment following child trauma**

A significant minority of children will continue to experience symptoms associated with post-traumatic stress disorder (PTSD) after exposure to a frightening event such as a road traffic accident or sporting injury. Unlike in the adult PTSD literature where there are well established cognitive models detailing the key variables which contribute to disorder onset and maintenance, little is known about the factors which determine whether children have good versus poor outcome following a frightening event. As parents are the main source of support for children after a frightening event, it is possible that parent-related factors contribute to variance in child adjustment.

It is well established that parents contribute to the development of anxiety disorders in children. Theoretical models and research studies have shown that children of parents who are anxious are more likely to develop anxiety disorders themselves. Parental overprotection is a style of parenting which is seen more in anxious parents and thought to be one factor which contributes to the development of child anxiety. Overprotective parenting is theorised to stifle the child's opportunity to develop autonomy and competence, and promote the idea that the world is a dangerous and threatening place. Such parenting style may also reinforce an avoidant coping style, something that is known to maintain anxiety. It is plausible that parental anxiety and overprotective parenting could also contribute to the development of post-traumatic stress symptoms in children, particularly as it is known that threat appraisals, negative emotions and avoidant coping are important variables in adult PTSD.

Parents also have an important role in scaffolding children's memories for past events and there is evidence from the child development literature that parents differ in the degree to which they elaborate with their children when talking about past events; children of parents who are more elaborative generally have better memories for events. In relation to the development of PTSD in children, parents have the opportunity to help or hinder children's memories for



frightening events. This is particularly important as models of PTSD in adults identify poorly elaborated trauma memories as central to the onset and maintenance of PTSD.

The aim of this study was to examine whether parental anxiety, overprotection and elaboration measured shortly after a frightening event predicted child post-traumatic stress symptoms and broader markers of psychological adjustment (anxiety and depression symptoms) three months later.

Forty two children, aged 6-13 years old, were recruited from emergency departments following an event which they perceived as frightening along with one of their parents. The participants were visited within six weeks of their injury at home and both the parent and child completed questionnaires examining symptoms of anxiety, depression and post-traumatic stress. The parent also completed a measure of parental overprotection. In order to assess elaboration, the parent and child completed a narrative task in which they were asked to talk to each other about the event which resulted in their attendance at the emergency department. Three months after the event, the participants were sent the questionnaires to complete again.

It was found that the parents' ratings of their own anxiety significantly predicted severity of post-traumatic stress symptoms in the children. This finding remained significant when differences in injury severity, as recorded by the emergency department, were factored into the analysis. Neither parental overprotection nor degree of parental elaboration during the narrative task significantly predicted child post-traumatic stress or depression and anxiety symptoms three months after the frightening event.

Results have to be considered with some study limitations in mind; the sample size was modest, pre-injury levels of anxiety were not measured and the analysis was not able to examine the potential impact that the child's anxiety had on the parent. However, the study supports the idea that parents' own anxiety may influence the development of post-traumatic stress symptoms in children after they have experienced a frightening event. This is broadly in line with developmental models of child anxiety which identify parental anxiety as a key risk factor. In order to develop a better understanding of post-traumatic stress in

children, further research is needed to investigate the exact mechanisms through which parental anxiety impacts child adjustment following a frightening event.

## **Connecting narrative**

Due to my previous doctoral level research degree, I started DClinPsy training with a good appreciation of how research is integral for furthering the understanding of psychological distress and using such to develop and improve psychological treatments. I have used training to consolidate my existing research skills as well as develop new ones. In order to illustrate research I have completed, the connecting narrative will provide an overview and reflections on the process of completing my main research project, service improvement project (SIP), narrative literature review and case studies.

### **Main research project**

#### *Study selection and development*

My main research project examined whether the parental anxiety, parental overprotection and the style of parent- child talk about a recent trauma predicted child post-traumatic stress (PTS) symptoms and broader psychological adjustment three months after the event. The study was novel in that it drew together three bodies of existing literature: parenting styles and the transmission of anxiety from parents to children, the role of parental elaboration in scaffolding children's memories for events, and research on the cognitive and behavioural factors which contribute to the development and maintenance of PTSD.

I became interested in this area of research following a teaching day on PTSD in children delivered by Dr. Richard Meiser-Stedman. I was struck by the lack of empirical research on the development of maintenance of PTSD in children. Current understanding of the causes of PTSD in childhood is largely based on research that has been completed in the adult field. However, this approach seemed rather short sighted, as unlike adults, the main source of support following a frightening event in childhood is parents. I was familiar with the work of Professor Lynne Murray which has demonstrated that parental factors are significant in the development of other anxiety disorders and therefore it seemed theoretically plausible that similar parent-related factors could explain some of the variance in child outcomes following a

frightening event. Further, from my clinical work in CAMHS, I had seen how influential parental anxiety could be on children.

Originally, I had planned to focus the study on children who attended an emergency department (ED) following a frightening event and had sustained a head injury. After designing the study, it became apparent that my research question significantly overlapped with that of another project entitled “Parental Response to Child Experiences of Trauma” (PROTECT). Following several meetings with the chief investigator, Dr. Sarah Halligan, it was decided that it made sense to combine the two projects. This meant that as well as Dr. Halligan making slight changes to her research design to incorporate my ideas, I would broaden my sample to include children who had sustained any injury following a frightening event.

### *Ethical approval*

As I was recruiting from NHS sites, I was required to obtain approval from the National Research Ethics Service (NRES). I had to submit major amendments to the NRES committee as the PROTECT study already had ethical approval. After the amendments were approved, I had to seek additional clearance from the relevant Research and Development offices and the University of Bath ethics committee. It seemed relatively easy to make amendments to the protocol and gain approval for such.

### *Recruitment*

The research nurses and doctors were responsible for screening potential participants and providing an overview of the study. The staff would either approach families as they attended the ED or would screen the ED database and identify recent attendees who met the study criteria. Posters were also displayed in the ED waiting area so that potential participants could self-identify, although this did not prove a particularly effective way to recruit.

The ED staff were incredibly busy and so it was important to think about how best to support them. As PROTECT was funded by the Economics and Social Research Council and was considered a portfolio study for the hospital, the ED received a monetary incentive for recruitment. In addition, Dr. Mark Lyttle (Consultant of Emergency Medicine) was a collaborator and so was able to encourage his team to

screen. Providing recruitment targets and frequent updates helped the staff keep the study in mind. Recruitment competitions were also set up. Lastly, with high staff turnover, it was important for the PROTECT research team to talk to new doctors and nurses about the study. I attended the ED on a number of occasions to introduce myself and the study to the staff team.

The number of children who were being screened and recruited was significantly below the target set in the first six months. Several factors accounted for this including changes in the team of research nurses and the hospital going into black alert. Whilst it was understandable that recruitment was not a priority during such difficult times, it did have serious implications for the study. As the design of the study included a follow-up, there were recruitment time constraints. It was therefore decided that other sites would be added; three further EDs became recruitment sites. Whilst this meant that recruitment increased, it was a challenge to find time to do all the assessments as the EDs were in four different counties and the geographical area served by each was vast.

### *Data collection*

As my project was embedded within the larger PROTECT study, the whole team were responsible for data collection. The initial visits were the most time consuming; two researchers would visit the young person and parent at their home and complete a diagnostic assessment with parent and child separately. Following this, the parent and child would be supported to complete a set of questionnaires before coming back together to complete two interaction tasks. Whilst only a small amount of the data was for my study, I became skilled at administering a range of assessments and tasks. I collected complete data for 33% of the participants.

It was interesting, and at times challenging, working with the different families. I worked with families for whom English was not their first language and therefore had to think carefully about the adaptations which needed to be made to the procedure. In addition, there was huge variation in the nature of the traumatic event and the resulting injuries. Prior to the visit, I would only have limited information on such factors and therefore could not fully prepare for what I was likely to hear and see during the assessment. Debriefing after a visit with the other researcher helped.

Despite such challenges with recruitment and data collection, 42 participants were recruited and 38 were retained at follow-up. Unfortunately, the study was still underpowered statistically. The team has been able to continue collecting data following submission of my research portfolio and the analyses will be re-run.

#### *Challenges and personal learning*

The greatest challenge for me was developing the coding manual for the parent-child narrative and obtaining good inter-rater reliability. The 'training' phase of coding was frustrating as it involved me and a research assistant testing the coding scheme on a selection of transcripts, comparing codes, making amendments to the manual and then re-testing the updated scheme. This had to be repeated several times before our inter-rater agreement was satisfactory. It also meant that I was reliant on another person in order to progress. This was hard as my style of working tends to be very efficient and independent.

#### *Contributions to clinical practice*

Despite the vast number of children who are exposed to traumatic events, the provision of care in the aftermath tends to be focused on physical injury rather than psychological wellbeing which likely reflect the lack of understanding about the factors which predict good versus poor outcome following such an event. This study provides preliminary evidence that parental anxiety may contribute to the development of child PTS symptoms after a traumatic event. Such results provide a starting point for further research into the factors that contribute to the development of PTSD in children.

## **Service Improvement Project**

### *Study selection and development*

During my working age adult's placement, I received clinical supervision from Dr. Kate Chapman who worked across a psychological therapy service and an early intervention for psychosis (EIP) service. Dr. Chapman advocated for service-users having choice over their treatment and this issue was frequently reflected on in supervision. Coinciding with this was the publication of Professor Anthony Morrison's controversial editorial in *The British Journal of Psychiatry* entitled "Antipsychotics: Is it time to introduce patient choice?" followed by a series of research papers examining the outcomes for people with psychosis who psychological therapy in the absence of medication (Morrison, Hutton, Shiers, & Turkington, 2012; Morrison et al., 2012; Morrison et al., 2014). Two interesting questions arose for me following this. Firstly, how do service-users and staff from EIP services actually feel about the issue of choice over treatment? And secondly, do staff in EIP services feel equipped to make such an option available to service-users? I felt such information would aid service development and improvement.

Working with Dr. Chapman and also Lorna Hogg from the University of Bath, a SIP was designed which aimed to explore staff and service-users' perspectives on having choice over treatment in an EIP service. In order to gain more insight into the issue, a focus group was convened with a number of young people who had previously used the EIP service. The focus group was fundamental to the development of a survey for staff and a survey for service-users. The project enabled a vast amount of data to be collected which could be analysed both qualitatively and quantitatively.

### *Ethical approval*

Following discussions with the Research and Development department, the project was deemed service-evaluation and not research because the question referred to a particular service and people's experience of the service. Gaining ethical approval from the University of Bath Psychology Research Ethics Committee was therefore adequate.

### *Process*

Collecting data from the staff team was relatively easy as the field supervisor was also the clinical lead and so had a vested interest in making sure all the staff completed the survey. I also presented the idea at a team meeting. Despite this, one staff member did opt out of completing the survey. Collecting data from service-users was more challenging. I was reliant on members of the team to introduce the SIP and support service-users in completing the survey.

I underestimated the amount of data I was going to collect. The data from staff team was therefore analysed, interpreted and written separately from that of the service-users. The qualitative analysis was yielded rich information, but it was difficult to draw themes out given the variability in responses. It was also important be mindful of my own views on the issue of choice over treatment when identifying themes. To ensure that I remained objective, I was able get another doctoral trainee, blind to the project, to also identify themes. Consulting with my supervisors was essential for the interpretation of the results, the conclusions and devising recommendations.

The findings were disseminated through a number of channels. I presented the findings to the team and facilitated a reflective discussion about how the findings could be used to improve the service. I was really encouraged by the responses from the team; they were keen to think about the implications of the project for service-development and also further projects which could be conducted based on the findings. A leaflet was produced which provided an overview of the project, the findings and the implications. The draft leaflet was sent to the trust's Internal Communications and Involvement Specialist who presented it to a service-user panel. Based on their feedback a final version was created and circulated to all those who participated in the project. Additional copies were given to the EIP service with the aim of it being a helpful resource for young people new to the service. I also presented a poster detailing the findings at the 2014 British Association for Behavioural and Cognitive Psychotherapies conference.

### *Challenges and personal learning*

The staff team were only willing to introduce the project to those service-users who were deemed 'stable'. This meant that the information obtained was not representative of the cross section of EIP service-users. I discussed with the team the importance of trying to ascertain the views of the range of service-users. However, I



did not want to rupture the positive relationship I had developed with them; having a good working relationship with the team is integral for conducting service-related projects successfully. I also found it challenging to translate the findings into concrete service-level changes.

#### *Contributions to clinical practice*

Having choice over treatment is a burgeoning area of research in the field of psychosis. This project contributes to the field by examining the views of both service-users and a staff team at a local level. The project highlighted that there are a range of factors that influence staff attitudes about service-users having choice over their treatment. Unlike that reported previously, not all service-users who contributed to the project actually wanted choice over their treatment. Based on such findings, areas for possible improvements were identified.

## **Critical Review of the Literature**

### *Study selection*

Through the clinical and academic components of training, the significant overlap in cognitive and behavioural processes that contribute to the onset and maintenance of psychological disorders became apparent. Whilst there is a substantial literature on so called ‘transdiagnostic processes’, I became interested in how such processes are accounted for theoretically. I therefore decided to conduct a literature review on transdiagnostic processes. Given the breadth of this topic, it was important to find a theoretical framework from which I could anchor the review. Both Dr. Claire Lomax and Dr. James Gregory had a particular interest in Interacting Cognitive Subsystems (ICS). The resulting narrative review of literature therefore described ICS, and critically evaluated whether it could be used as a theoretical platform from which transdiagnostic processes could be explained. Dr. Phil Barnard, one of the main ICS thinkers, also provided valuable guidance.

### *Challenges and personal learning*

ICS is very complex and as a result I found that the extant literature on it was very dense and not particularly accessible. In order to make the review clinically useful, I had to think creatively about both the structure and the content of the review. To illustrate the main conceptual points, I produced two summary tables, one which contained clinical examples and a second to define key terms.

### *Contributions to the literature*

The review highlights how common psychological processes can be integrated into a coherent transdiagnostic theory whilst still maintaining explanatory power for different clinical presentations. Using ICS, the review also illustrates how transdiagnostic theory has the potential to yield significant progress in the way psychological disorders are conceptualised and inform the development of novel treatments. Including diagrams, summary tables and clinical examples will hopefully enhance the appeal of ICS to a new clinical audience.

## **Case studies**

Completing a case study on each placement provided a valuable opportunity to draw clear theory-practice links and consider the importance of routinely evaluating clinical work. I felt that doing so improved the quality of my work, particularly as it forced me to critically appraise what I had done and the reasons behind a certain outcome. Further, evaluating progress regularly served a useful clinical tool; it could be discussed with client in session and used to refine the intervention. I was pleased that services were open to the idea of incorporating outcome monitoring. I think this reflects the growing recognition of the need to evidence quantitatively the work that services do.

There is a clear development in the case studies I have produced over the course of training, both in terms of academic content, design and the nature of the clinical work completed. For example, my first case study described and evaluated time-limited CBT for social anxiety in an IAPT service in which there was already a culture of routinely monitoring outcomes. More recently, I have written a case study describing a non-manualised attachment-based group intervention for foster carers and adoptive parents. The service did not previously evaluate this group quantitatively. As well as selecting appropriate measures and demonstrating change from pre- to post-group, I was pleased that the service plan to continue evaluating the group in the future.

## **Post-qualification research**

Throughout my training, I have been able to refine my research skills and interests as well as develop new ones. My overarching research ambition is to combine my knowledge of experimental design, research techniques and statistical analysis with my clinical experience to further the theoretical understanding of presentations which remain a challenge to treat psychologically (for example, adult anorexia nervosa) and from this develop innovative strategies to augment existing treatments.

I can envisage a number of challenges to pursuing such research interests as a newly qualified clinical psychologist. Finding a post which incorporates protected research time and having the necessary resources are likely to be the greatest barriers. One potential solution would be to find a post which has strong links with a teaching

hospital or a DClinPsy course. This may enable me to form collaborations and supervise students in a research capacity. Through training I have also learnt about the importance of conducting service-related projects and writing up novel clinical work in the form of case studies. Whilst methodologically these often have shortcomings; they are incredibly valuable. They also have the advantage of not being as resource heavy as research projects and thus may be more viable in the context of a NHS clinical role.

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## **Appendix A Instructions for authors for literature review**

### **Psychopathology Review**

#### **Scope of the Journal**

*Psychopathology Review* is an e-journal created to publish cutting-edge reviews and theoretical articles relevant to psychopathology, clinical psychology and psychiatry. Published papers can include systematic reviews, literature reviews, meta-analyses and theoretical articles that supplement or challenge existing theoretical views of psychopathology or clinical phenomena. Contributions will be welcomed from the fields of experimental psychopathology, psychotherapy, psychiatry, clinical neuroscience, and any other areas of psychology and neuroscience where the content makes a significant contribution to understanding the aetiology or treatment of psychopathology phenomena. Reports on individual research studies are not appropriate, but instead should be submitted to *Journal of Experimental Psychopathology*. Articles contributing to knowledge in most areas of psychopathology will be considered for publication, including anxiety-based problems, depression and mood disorders, schizophrenia and psychotic symptoms, substance abuse and dependency, eating disorders, sexual and gender identity problems, personality disorders, somatoform disorders, dissociative experiences, neurological disorders, childhood and adolescent psychological problems, and learning, intellectual and developmental disabilities.

#### **Submitting Manuscripts**

Authors should submit their manuscript electronically via the journal's editorial system (<http://pr.textrum.com/>). Your manuscript will then be allocated to an Associate Editor who will manage the peer review process. You should retain an editable version of your paper in WORD or similar format because this may be needed for further processing should your manuscript be accepted for publication.

There is no word-limit to articles that may be accepted for publication, but the Editors would expect presentation to be efficient, concise and informative. Most articles accepted for publication would usually be no more than 50 manuscript pages.

Submission of an article implies that the work described has not been published previously (except in the form of an abstract or as part of a published lecture or academic thesis), that it is not under consideration for publication elsewhere, that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out, and that, if accepted, it will not be published elsewhere in the same form, in English or in any other language, without the written consent of the Editors.

#### **Presentation of the Manuscript**

The manuscript should follow American Psychological Association (APA) publication manual guidelines. All pages should be typed double-spaced and

numbered (including pages containing the title, authors names and affiliation footnotes, abstract, acknowledgments, references, tables, and figure caption list)

**Title Page:** A title page should be provided and should include the full title of the article, the authors' names and affiliations, and a suggested running head. The affiliation should include the department, institution, city or town, and country. It should be made clear in which institution(s) the research was carried out. The suggested running head should be no more than 80 characters. The title page should also clearly indicate the name, address, email address, fax number and telephone number of the corresponding author.

**Abstract:** An abstract following American Psychological Association guidelines should be provided and preferably be no longer than 150 words. The abstract page should also provide a list of 5-10 key words that accurately reflect the content of the article and can be used for indexing and search purposes.

**Format of the article:** Divide your article into clearly defined sections with the use of headings (non-numbered). The following headings are mandatory: Abstract, Introduction, Method, Participants, Procedure, Results, Discussion and References, but authors may include other headings where appropriate. Any subsection may be given a brief heading. Each heading should appear on its own separate line.

**Figures & Illustrations:** Photographs, drawings, diagrams, graphs and charts should be numbered in one consecutive series of Arabic numerals. Each individual figure or illustration should be accompanied by a clearly-worded caption or figure legend. All figures, tables, photographs, drawings, charts and diagrams should be submitted within the manuscript, preferably on separate pages at the end of the manuscript. If your manuscript is accepted for publication you may then be asked to submit your artwork in an electronic format and supply high-quality printouts in case conversion of the electronic artwork is problematic.

**Tables:** Tables should be numbered in one consecutive series of Arabic numerals. Each table should be typed on a separate page with the title centred above the table and all explanatory footnotes, etc. printed below.

**Acknowledgements:** Do not include acknowledgements on the title page. Place them on a separate page after the main body of the article and before the reference list.

**References:** Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications should not be in the reference list, but may be mentioned in the text. Citation of a reference as 'in press' implies that the item has been accepted for publication.

Citations in the text should follow the referencing style used by the American Psychological Association. You are referred to the Publication Manual of the American Psychological Association, the latest can be found at <http://www.apastyle.org>.

References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication.

Examples reference formats include:

#### JOURNAL ARTICLES

Davey, G.C.L., Startup H.M., MacDonald C.B., Jenkins D. & Paterson K. (2005) The use of 'as many as can' stop rules during worrying. *Cognitive Therapy & Research*, 29, 155-169.

#### BOOKS

Davey G.C.L. & Wells A. (Eds) (2006) *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: John Wiley.

#### BOOK CHAPTERS

Davey G.C.L. (2006) A mood-as input account of perseverative worrying. In G.C.L. Davey & A. Wells (Eds) *Worry and its psychological disorders: Theory, assessment and treatment*. Chichester: John Wiley. Pp217-237

#### AUTHORED WEB-PAGE

Lecce S. (2005) Should egalitarians be perfectionists? Retrieved January 30, 2008, from <http://www.blackwell-synergy.com/doi/abs/10.1111/j.1467-9256.2005.00237.x?cookieSet=1&journalCode=ponl>

#### UN-AUTHORED WEB-PAGE

New child vaccine gets funding boost. (2001). Retrieved March 21, 2001, from [http://news.ninemsn.com.au/health/story\\_13178.asp](http://news.ninemsn.com.au/health/story_13178.asp)



## **Appendix B Instructions for authors for service improvement project**

### **Journal of Mental Health**

#### **Aims and Scope**

The Journal of Mental Health is an international forum for the latest research in the mental health field. Reaching over 65 countries, the journal reports on the best in evidence-based practice around the world and provides a channel of communication between the many disciplines involved in mental health research and practice.



The journal encourages multi-disciplinary research and welcomes contributions that have involved the users of mental health services.

The international editorial team are committed to seeking out excellent work from a range of sources and theoretical perspectives. The journal not only reflects current good practice but also aims to influence policy by reporting on innovations that challenge traditional ways of working. We are committed to publishing high-quality, thought-provoking work that will have a direct impact on service provision and clinical practice.

The Journal of Mental Health features original research papers on important developments in the treatment and care in the field of mental health. Theoretical papers, reviews and commentaries are also accepted if they contribute substantially to current knowledge.

#### **Submissions**

All submissions, including book reviews, should be made online at Journal of Mental Health's

Manuscript Central site at <http://mc.manuscriptcentral.com/cjmh>

New users should first create an account. Once a user is logged onto the site submissions should be made via the Author Centre. Please note that submissions missing reviewer suggestions are likely to be un-submitted and authors asked to add this information before resubmitting. Authors will be asked to add this information in section 4 of the on-line submission process.

Manuscripts will be dealt with by the Executive Editor. It is essential that authors pay attention to the guidelines to avoid unnecessary delays in the evaluation process.

The names of authors should not be displayed on figures, tables or footnotes to facilitate blind reviewing.

#### **Word Count**

The total word count for review articles should be no more than 6000 words. Original articles should be no more than a total of 4000 words. We do not include the abstract, tables and references in this word count. However manuscripts are limited to a maximum of 4 tables and 2 figures.

#### **Manuscript Style**

Manuscripts should be typed double-spaced (including references), with margins of at least 2.5cm (1 inch). The cover page (uploaded separately from the main manuscript) should show the full title of the paper, a short title not exceeding 45 characters (to be used as a running title at the head of each page), the full names, the exact word length of the paper and affiliations of authors and the address where the work was carried out. The corresponding author should be identified, giving full postal address,

telephone, fax number and email address if available. To expedite blind reviewing, no other pages in the manuscript should identify the authors. All pages should be numbered.

**Abstracts:** The first page of the main manuscript should also show the title, together with a structured abstract of no more than 200 words, using the following headings: Background, Aims,

Method, Results, Conclusions, Declaration of interest. The declaration of interest should acknowledge all financial support and any financial relationship that may pose a conflict of interest.

Acknowledgement of individuals should be confined to those who contributed to the article's intellectual or technical content.

**Keywords:** Authors will be asked to submit key words with their article, one taken from the pick-list provided to specify subject of study, and at least one other of their own choice.

**Text:** Follow this order when typing manuscripts: Title, Authors, Affiliations, Abstract, Keywords, Main text, Appendix, References, Figures, Tables. Footnotes should be avoided where possible. The total word count for review articles should be no more than 6000 words. Original articles should be no more than a total of 4000 words. We do not include the abstract, tables and references in this word count. Language should be in the style of the APA (see Publication Manual of the American

Psychological Association, Fifth Edition, 2001).

**Style and References:** Manuscripts should be carefully prepared using the aforementioned

Publication Manual of the American Psychological Association, and all references listed must be mentioned in the text. Within the text references should be indicated by the author's name and year of publication in parentheses, e.g. (Hodgson, 1992) or (Grey & Mathews 2000), or if there are more than two authors (Wykes et al., 1997). Where several references are quoted consecutively, or within a single year, the order should be alphabetical within the text, e.g. (Craig, 1999; Mawson, 1992; Parry & Watts, 1989; Rachman, 1998). If more than one paper from the same author(s) a year are listed, the date should be followed by (a), (b), etc., e.g. (Marks, 1991a).

The reference list should begin on a separate page, in alphabetical order by author (showing the names of all authors), in the following standard forms, capitalisation and punctuation:

a) For journal articles (titles of journals should not be abbreviated):

Grey, S.J., Price, G. & Mathews, A. (2000). Reduction of anxiety during MR imaging: A controlled trial. *Magnetic Resonance Imaging*, 18, 351–355.

b) For books:

Powell, T.J. & Enright, S.J. (1990) *Anxiety and Stress management*. London: Routledge

c) For chapters within multi-authored books:

Hodgson, R.J. & Rollnick, S. (1989) More fun less stress: How to survive in research. In

G.Parry & F. Watts (Eds.), *A Handbook of Skills and Methods in Mental Health Research* (pp. 75–89). London:Lawrence Erlbaum.

**Tables:** should be typed on separate pages and their approximate position in the text should be indicated. Units should appear in parentheses in the column heading but not in the body of the table. Words and numerals should be repeated on successive lines; 'ditto' or 'do' should not be used.

## **Appendix C Staff survey for service improvement project**

### **Promoting choice over treatment in the South Gloucestershire early intervention service for psychosis**

#### Aim of the project:

Best practice guidelines for psychosis stress the importance of taking into account peoples' needs and preferences and enabling people to make informed decisions about their care and treatment in partnership with healthcare professionals. This is in line with NHS policy that promotes patient-led care, collaborative decision making and provision of choice. The aim of this project is to investigate service-users' and healthcare professionals' experiences of treatment options, specifically antipsychotic medication, in the South Gloucestershire Early Intervention (EI) for psychosis service

Please complete the brief survey below and return to one of researchers via email or post. If you require further information or would like to ask any questions, do not hesitate to contact either the researchers using the details provided at the end of the survey.

#### **Background information:**

Profession: [Click here to enter text.](#)

Years post-qualification: [Click here to enter text.](#)

Do you have prescribing rights? : Y ☐ N ☐

Total time working for South Gloucestershire early intervention service (years, months): [Click here to enter text.](#)

Total time working in early intervention for psychosis services (years, months):  
[Click here to enter text.](#)

---

**1. For what reasons would antipsychotic medication be prescribed to service-users in the South Gloucestershire EI service? (Select one or more)**

- |                             |                          |  |                                     |
|-----------------------------|--------------------------|--|-------------------------------------|
| Sleep                       | <input type="checkbox"/> | Negative symptoms of psychosis (e.g. inexpressive faces, monotone and monosyllabic speech, lack of interest or pleasure) | <input type="checkbox"/>            |
| Depression                  | <input type="checkbox"/> | Mood fluctuations (e.g. mania)   | <input type="checkbox"/>            |
| Anxiety                     | <input type="checkbox"/> | Behavioural difficulties (e.g. aggression, hostility).   | <input type="checkbox"/>            |
| Sedation                    | <input type="checkbox"/> | Positive symptoms of psychosis (e.g. delusions, hallucinations, or disordered thought)                                   | <input type="checkbox"/>            |
| Other (please detail below) | <input type="checkbox"/> | Physical difficulties (e.g. nausea, balance problems)  | <input checked="" type="checkbox"/> |

*Comments / further details*

Click here to enter text.

**2. What factors are important in determining which antipsychotic is prescribed to service-users in the South Gloucestershire EI service?**

*(Select one or more)*

- |   |                          |  |                          |
|---|--------------------------|--|--------------------------|
| Nature / characteristics of symptoms          | <input type="checkbox"/> | Evidence-base / best practice guidelines (e.g. NICE guidelines)                              | <input type="checkbox"/> |
| Familiarity for prescriber                    | <input type="checkbox"/> | Severity of symptoms   | <input type="checkbox"/> |
| Coexisting medical problems                   | <input type="checkbox"/> | Risk of medication non-compliance  | <input type="checkbox"/> |
| Previous antipsychotic treatment              | <input type="checkbox"/> | Service-users' specific wishes for / against a particular antipsychotic                      | <input type="checkbox"/> |
| Colleagues views on particular antipsychotics | <input type="checkbox"/> | Third party (e.g. relative / carer) specific wishes for / against a particular antipsychotic | <input type="checkbox"/> |
| Cost of antipsychotic                         | <input type="checkbox"/> | Other medications (psychiatric or other) prescribed  | <input type="checkbox"/> |
| Possible side effects                         | <input type="checkbox"/> | Other (please detail below)  | <input type="checkbox"/> |

*Comments / further details*

Click here to enter text.

**3. What methods do you routinely use to ensure informed choice and shared decision making occur before commencing antipsychotic treatment in the South Gloucestershire EI service? (Select one or more)**

- |   |                          |   |                          |
|---|--------------------------|---|--------------------------|
| Weighing up the benefits and risks of the different medications with the service-user | <input type="checkbox"/> | Discussion of a range of alternatives (including non-pharmacological)   | <input type="checkbox"/> |
| Discussion of the service-user's goals and values                                     | <input type="checkbox"/> | Providing the service-user and third parties with written information   | <input type="checkbox"/> |
| Where possible, ensuring involvement of third parties (e.g. relative, carers)         | <input type="checkbox"/> | Signposting to psychoeducational resources on the internet  | <input type="checkbox"/> |
| Explaining verbally the possible adverse effects of the different antipsychotics      | <input type="checkbox"/> | Using other educational material- for example, video clips of other service-user experiences of taking a certain medication | <input type="checkbox"/> |
| Explaining verbally how antipsychotic medications work                                | <input type="checkbox"/> | Allowing the service-user time to make their decision after information giving  | <input type="checkbox"/> |
| Other (please detail below)   | <input type="checkbox"/> | I do not believe in informed choice or shared decision making   | <input type="checkbox"/> |

*Comments / further details*

[Click here to enter text.](#)

**4. Under what circumstances would you feel most confident about not recommending antipsychotic medication to service-users in the South Gloucestershire EI service? (Select one or more)**

- |  |                          |   |                          |
|--|--------------------------|---|--------------------------|
| The service-user has low scores on assessment measures (e.g PANSS)                         | <input type="checkbox"/> | The service-user does not live alone                          | <input type="checkbox"/> |
| The service-user has a less severe symptom profile   | <input type="checkbox"/> | The service-user has supportive family                        | <input type="checkbox"/> |
| The service-user is engaging well in psychological therapy                                 | <input type="checkbox"/> | The service-user is deemed to be low risk to self and others  | <input type="checkbox"/> |
| The service-user does not have comorbid psychological difficulties                         | <input type="checkbox"/> | The service-user is engaging well with EI workers             | <input type="checkbox"/> |
| The service-user is still engaging in routine activities (e.g. college, work, social life) | <input type="checkbox"/> | The service-user has a short duration of untreated psychosis. | <input type="checkbox"/> |
| There are physical health complications (e.g. heart condition or pregnancy)                | <input type="checkbox"/> | The service-user is below 20 years old                        | <input type="checkbox"/> |
| Other (please detail below)  | <input type="checkbox"/> |   |                          |

**Comments / further details**

Click here to enter text.

**5. Under what circumstances are you most likely to recommend antipsychotic medication to service-users in the South Gloucestershire EI service? (Select one or more)**

- |   |                          |   |                          |
|---|--------------------------|---|--------------------------|
| The service-user has high scores on assessment measures (e.g PANSS)                     | <input type="checkbox"/> | The service-user lives alone                                  | <input type="checkbox"/> |
| The service-user has a more severe symptom profile                                      | <input type="checkbox"/> | The service-user does not have a supportive family            | <input type="checkbox"/> |
| The service-user is not engaging well in psychological therapy                          | <input type="checkbox"/> | The service-user is deemed to be high risk to self and others | <input type="checkbox"/> |
| The service-user has comorbid psychological difficulties                                | <input type="checkbox"/> | The service-user is not engaging well with EI workers.        | <input type="checkbox"/> |
| The service-user is withdrawing from daily activities (e.g. college, work, social life) | <input type="checkbox"/> | The service-user has a long duration of untreated psychosis.  | <input type="checkbox"/> |
| There are no physical health complications  | <input type="checkbox"/> | The service-user is 20 years or older                         | <input type="checkbox"/> |
| Other (please detail below)   | <input type="checkbox"/> |   |                          |

**Comments / further details**

Click here to enter text.



6. On a scale of 0-100 (where 0 = none at all, and 100 = informed choice is essential) how much choice do you believe service-users should have over commencing antipsychotic treatment?

**Answer and further comments**

[Click here to enter text.](#)

7. In the context of the South Gloucestershire EI service, on a scale of 0-100 (where 0 = not at all and 100 = I fully believe this), how much do you agree with the following statement:

*“Antipsychotics must always be the first line of treatment for people with psychosis”*

**Answer and further comments**

[Click here to enter text.](#)

8. In the context of the South Gloucestershire EI service, on a scale of 0-100 (where 0 = not at all and 100 = I fully believe this), how much do you agree with the following statement:

*“Offering no antipsychotic medication as a choice is a realistic option”*

**Answer and further comments**

[Click here to enter text.](#)

9. In the context of the South Gloucestershire EI service, on a scale of 0-100 (where 0 = not at all and 100 = I fully believe this), how much do you agree with the following statement:

*“All service-users with psychosis require antipsychotic medication in order to recover.”*

**Answer and further comments**

[Click here to enter text.](#)

**10. In the context of the South Gloucestershire EI service, on a scale of 0-100 (where 0 = not at all and 100 = I fully believe this), how much do you agree with the following statement:**

*“There are too many possible risks to delay the introduction of antipsychotic medication to people with a first episode of psychosis”*

**Answer and further comments**

Click here to enter text.

**11. In the context of the South Gloucestershire EI service, on a scale of 0-100 (where 0 = not at all and 100 = I fully believe this), how much do you agree with the following statement:**

*“I advocate psychological interventions, such as cognitive behavioural therapy (CBT), with the same vigour as antipsychotic medication to service-users”*

**Answer and further comments**

Click here to enter text.

**12. Are you aware of the research evidence that suggests that the efficacy of antipsychotic medication for people with psychosis have been overstated? (Tick one box).**

Yes ☐

No ☐

**If yes, has such research influenced your practice? (Tick one box).**

Yes ☐

No ☐

**Comments / further details**

Click here to enter text.

**13. Are you aware of the recent research evidence which suggests CBT may be an effective first line intervention for medication naïve or those who have ceased antipsychotic medication, particularly younger aged people and those with a shorter duration of psychosis? (Tick one box).**

Yes ☐      No ☐

**If yes, has this research influenced your practice? (Tick one box).**

Yes ☐      No ☐

**Comments / further details**

Click here to enter text.

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Thank you very much for your help. The results of this project will be presented to the team.

Please return the completed survey to the researcher or the supervisor by email or post (internal or external mail).

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## **Appendix D Additional service improvement project**

### **Is there a choice to make? Service-users' experiences and attitudes towards treatment in an Early Intervention for Psychosis service**

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## Abstract

**Background:** Emerging evidence suggests that psychological interventions may be efficacious as a standalone treatment for people with psychosis who have chosen not to take antipsychotic medication. However, there has been limited research examining service-users' attitudes towards treatments for psychosis or the extent to which they feel able to make informed choices about their treatment.

**Aim:** To investigate service-users' experiences of treatment for psychosis, their attitudes towards different treatment approaches and their views on having choice over treatment.

**Method:** Seven service-users accessing an early intervention for psychosis (EIP) service completed a survey about treatment for psychosis which consisted of multiple-choice and rating scale questions used to measure the direction and strength of attitudes. Qualitative and quantitative analyses were employed.

**Results:** The results demonstrate huge variation in service-users' treatment experiences and also their attitude towards the type of treatment that is necessary and how much choice they should have over treatment. Six categories emerged from the qualitative analysis which included how much choice individuals wanted and felt they had over treatment, whether they received enough information and in the right format, their general attitude towards taking medication for symptoms, the involvement of significant others in treatment decisions, specific variables which influenced their attitudes towards treatment and choice, and the range of interventions offered by EIP services.

**Conclusions:** There is huge variation in service-users' experiences of treatment for psychosis and also their views on the type of treatment that is necessary and how much choice they should have over treatment. Implications for service-delivery and future research are discussed.

Declaration of interest: None

Keywords: Psychosis, early intervention, treatment, choice

National initiatives have emphasised the importance of improving the experience of service-users who have mental health problems (Department of Health, 2008). As part of this, service-users should have the opportunity to make informed decisions about their care and treatment (National Institute for Clinical Excellence, 2011). This is particularly relevant for people with psychosis for whom treatment options have historically been limited to antipsychotic medication with or without psychological intervention. This is despite high rates of medication non-compliance (Lacro, Dunn, Dolder, Leckband, & Jeste, 2002), significant long and short term side effects of antipsychotic medication (Moncrieff, Cohen, & Mason, 2009), as well as research demonstrating that the efficacy of antipsychotics may have been overstated in trials (Hutton et al., 2012). In light of such research, in combination with initiatives and guidance emphasising the importance of involving service-users in treatment decisions, whether antipsychotics need always be the front line intervention for people with psychosis and the extent to which such service-users can have choice over their treatment has been called into question (Morrison, Hutton, Shiers, & Turkington, 2012). Whilst introducing choice over treatment would seem outdated in most other areas of health care, when considering people with psychosis it remains controversial.

Morrison and colleagues have advocated for the introduction of choice over treatment for those who experience psychosis and questioned the view that antipsychotics are always necessary in order to recover (Morrison, Hutton, Shiers, et al., 2012). In support of this, studies have been conducted to examine whether cognitive behaviour therapy (CBT) is an effective treatment for people with psychosis who have chosen not to take antipsychotics (Morrison, Hutton, Wardle, et al., 2012; Morrison et al., 2014). In one such study, adults with schizophrenia-spectrum disorders who had chosen not to take antipsychotics were randomly allocated to receive either CBT with regular care from mental health services or regular care alone (Morrison et al., 2014). At the end of the 18-month trial period, psychotic symptoms were consistently lower in people who received CBT and there were fewer recorded serious adverse events compared to those who received regular care (Morrison et al., 2014). Such results may support clinicians in giving more choice to service-users with psychosis and also lend support to the argument that

evidence-based treatment alternatives should be available to those who make the decision not to take antipsychotic medication.

For people with psychosis, the possibility of having more choice over their treatment and being offered psychological therapy as a first line intervention would challenge the prevailing view that antipsychotics are always required to recover from psychosis. As this would represent a significant shift in the treatment narrative for people with psychosis, examining clinicians' and service-users' perspectives will be crucial for identifying barriers to translating research into clinical practice. Further, engaging clinicians and service-users is crucial for successful planning, evaluation and development of mental health services (Siriwardena, 2009; Tait & Lester, 2002) and currently mandated by UK government policy (Department of Health, 2011).

Although service-users' views on having choice over their treatment for psychosis have not been directly examined, a number of qualitative studies have reported on the subjective experiences of different treatments for people with psychosis (for example, (Carrick, Mitchell, Powell, & Lloyd, 2004; Kilbride et al., 2013; Moncrieff et al., 2009; O'Toole et al., 2004). One such study examined service-users' experiences of taking antipsychotic medication (Carrick et al., 2004). A key theme that emerged from the analysis was service-users' role in managing their treatment (Carrick et al., 2004). Whilst some service-users felt that they had sufficient control over their treatment decisions and enough information was provided, the majority felt unclear about why certain decisions had been made regarding their treatment and they perceived this to be unhelpful (Carrick et al., 2004). Such findings highlight the importance of health care professionals working with service-users to make treatment decisions.

We have previously reported on the perspectives of a multidisciplinary staff team regarding different treatments for first-episode psychosis and how much choice over treatment they believed service-users of Early Intervention for Psychosis (EIP) services should have (Cowdrey, Hogg, & Chapman, In preparation). In this study, staff believed that in principal service-users should have choice over their treatment and that antipsychotics need not be the first line intervention (Cowdrey et al., In preparation). However, a number of variables were identified which influenced staffs' views including whether the service-user had capacity to make treatment

decisions and engage with psychological treatments, issues of risk and the duration of untreated psychosis (DUP) (Cowdrey et al., *In preparation*). Similar factors were also identified in a qualitative study examining consultant psychiatrists' attitudes towards shared decision-making in antipsychotic prescribing (Shepherd, Shorthouse, & Gask 2014).

Few studies have explored service-users' attitudes towards different treatments for psychosis and none of these have focused specifically on the issue of choice or involved participants from EIP services. This is relevant given recent empirical evidence demonstrating that psychological treatments, such as CBT, may be effective first line interventions for those who have chosen not to take antipsychotic medication for psychosis (Morrison, Hutton, Wardle, et al., 2012; Morrison et al., 2014) in addition to government policy mandating service-user involvement in service-development (Department of Health, 2011). The aim of this service-related project is therefore to explore service-users' perspectives on treatments for psychosis, particularly antipsychotic medication, and their experiences of having choice over treatment. By doing so, it is hoped that the results will contribute to EIP service-planning and development as well as improve the quality of care for individuals.

## **Method**

### **Setting**

The study was based at an EIP service over a 12-month period commencing in June 2013. Further details of the setting of the service can be found in Cowdrey, Hogg and Chapman (*In preparation*). Ethical approval was given by the University of Bath.

### **Service-users**

Service-users were invited to take part by a member of the EIP team if their case was currently open to the EIP service during the study period (June 2013 – June 2014) and the clinician involved in the case deemed it to be appropriate to approach the service-user regarding the study. No exclusion criteria were applied. It was not a requirement for service-users to be currently taking medication for their symptoms.



## Procedure

**Survey development.** In order to develop the survey for service-users, a focus group was convened with four ex-service-users (3 males and one female). After the aims of the project were detailed, topics which the ex-service users deemed as significant based on their experiences of accessing the service were discussed. At the end of the focus group, the themes of the discussion were summarised. A draft survey was constructed by the researchers based on this and circulated to the ex-service users for feedback. Further modifications were then made to the survey.

The final survey had two sections and a total of 18 questions<sup>8</sup>. Section A asked about the process and experience of being prescribed medication and Section B asked about general attitudes towards different types of treatments and having choice over treatment. Service-users who had never been prescribed medication for psychosis or had chosen not to take it were invited to complete Section B only. Service-users who had taken medication for psychosis were invited to complete both sections. Seven of the questions required service-users to select one or more options from a range of responses. For example, *'What kind of information were you provided regarding medication?'* Seven items asked service-users to rate various aspects of their treatment on a scale of 0-100. For example, *'On a scale of 0-100 (where 0 = not helpful at all and 100 = very helpful) how helpful was it to have family members / significant others involved?'* The remaining questions asked service-users to rate on a scale of 0-100, how much they agreed with a particular statement (from 0 = *not at all* to 100 = *I fully believe this*) such as *'antipsychotics must always be the first line of treatment for people with psychosis'*. There was space after each question and at the end of the survey for further comments.

**Data collection.** Information sheets about the project were given to team members for circulation to service-users. In addition, service-users who had given consent to be contacted by the EIP team using email were sent electronic copies of the information sheet. If the service-user provided consent, they were sent either an electronic or hard copy of the survey, depending on preference. Where necessary, a member of the EIP team supported the service-user in completing the survey. Once

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<sup>8</sup> Available on request from the corresponding author.

the survey had been completed and returned, service-users were thanked, debriefed and entered into a draw to win a gift voucher.

### **Data analysis.**

**Quantitative analysis.** Univariate analysis (frequencies and percentages) were conducted to examine the distribution of responses.

### **Qualitative analysis.**

The primary researcher transcribed written feedback verbatim. Data was coded and analysed using NVIVO software. The thematic analysis procedure described by Braun and Clarke was employed to analyse the data (Braun & Clarke, 2006). Comments from the different questions were coded and analysed together due to the overarching theme of the survey. All transcripts were read and key words or phrases were highlighted and used to develop codes. Individual codes were then compared and organised into themes on the basis of overlapping content. The data was reviewed to ensure that the themes worked in relation to the coded extracts. Where possible the words used by participants were included in the theme title.

Braun and Clarke (2006) recommended that researchers clearly specify their theoretical assumptions and approach to thematic analysis. The analysis was underpinned by an essentialist / realist framework, which aims to report on the experience, meanings and reality of participants (Braun & Clarke, 2006). Themes were therefore identified as the semantic level. It is also important to note that two of the researchers were psychologists working in EIP services and this may have unintentionally biased the interpretation of the data. The main researcher, a trainee clinical psychologist, held a more neutral position

Three of the seven transcripts were randomly selected and given to an independent researcher to code. The independent researcher was an academic psychologist who had previous experience in thematic analysis but was unfamiliar with the aims of this study. There was close agreement between researchers in terms of codes applied to the text. Following credibility checking, the interpretation of the data and the conclusions drawn were made in a meeting between the researchers.

## Results

Seven service-users out of eight approached took part (5 men, 2 women). The mean age of the service-users was 26.1 years (age range = 22 - 39 years). Five service-users described themselves as White British, one as White Irish and one service-user chose not to complete this question. The mean length of time accessing support from the EIP service when they completed the survey was 33 months (range = 6 - 48 months). One of the service-users had their first contact with the EIP service following admission to hospital. All service-users reported that they had taken medication for psychosis; the majority had been prescribed antipsychotic medication ( $n = 6$ ). All service-users who had been prescribed antipsychotic medication had also been prescribed at least one other type of medication including antidepressants ( $n = 3$ ), anxiolytics ( $n = 3$ ) or Z drugs ( $n = 2$ ). Two of the seven service-users had been prescribed two different types of antipsychotic.

### Quantitative results

**Information provided to service-users regarding medication.** The majority of service-users had the opportunity to discuss with a clinician the possible side effects of medication (71%) and the different types of medication that may be helpful (57%). Four service-users indicated that they received a leaflet which provided information about a specific medication. One respondent recalled discussing with a clinician how the medication actually worked. Other methods of information provision included: having the option to discuss the medication with other service-users who had taken medication for psychosis ( $n = 1$ ) and other educational material, such as videos documenting people's experiences of taking medication for psychosis ( $n = 1$ ).

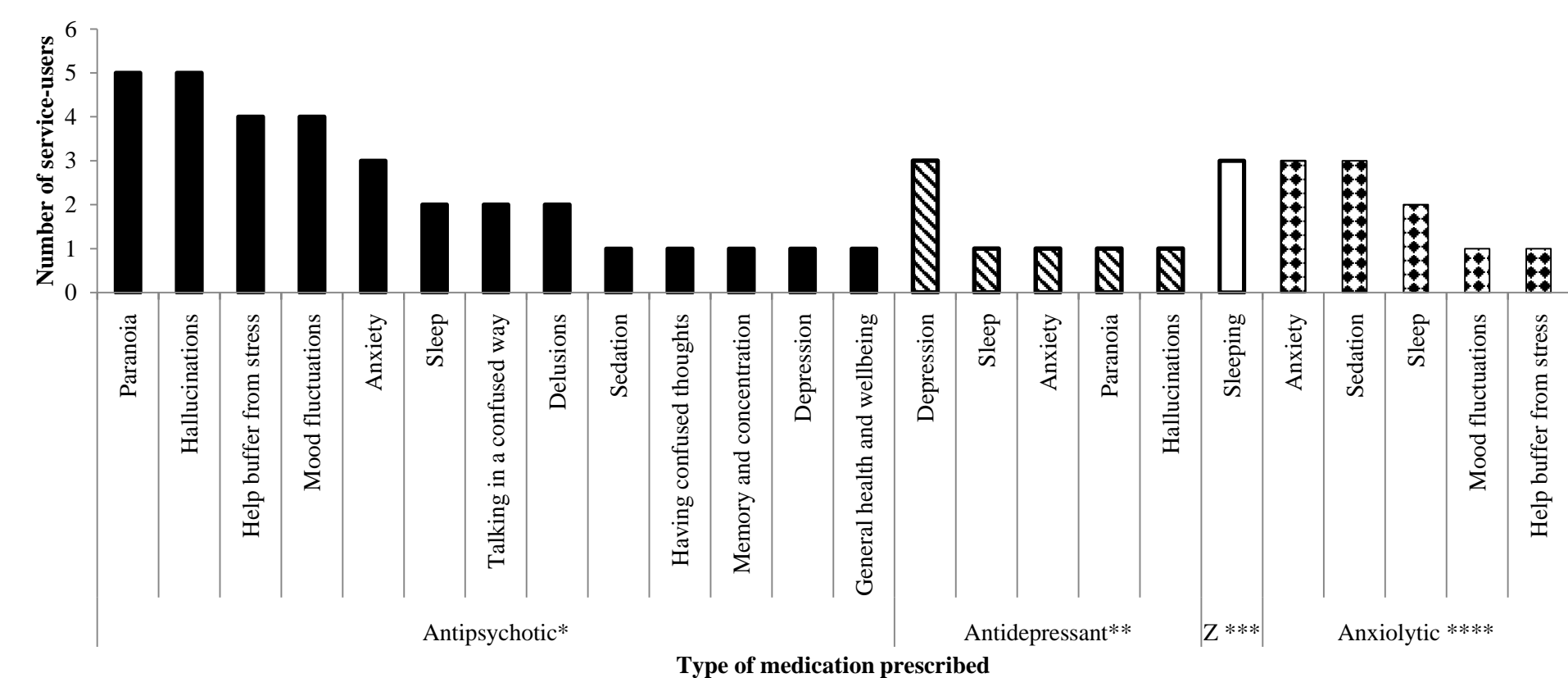
Service-users rated on a scale of 0-100 (0 = *not at all* and 100 = *very much so*) how helpful they had found the discussions about medication in facilitating their decision-making. The mean rating was 70 ( $SD = 34.1$ ) and the range was 0-100. When asked how much of the information they had been able to understand and process at the time, the majority of service-users rated '*all of it*' or '*most of it*' (57 %). One service-user said they understood none of the information they were given about medication.

**Involvement of significant others in discussions around medication.** Four out of seven service-users asked, indicated that family members and/or significant others were involved in conversations regarding medication. Two service-users indicated how helpful it had been having family-members / significant others involved by rating it on a scale of 0-100; the mean rating given was 45. Reasons endorsed for family members/ significant others not being involved in conversations about medication included: the service user not wanting family/significant others involved in treatment decisions ( $n = 2$ ), family members / significant others not wanting involvement with mental health professionals ( $n = 1$ ) and family members/ significant others not knowing about the difficulties ( $n = 1$ ).

**The prescribing clinician.** The majority of the service-users (57%) asked said that it did not make a difference to them which member of the EI team prescribed them medication.

**Understanding the purpose of a medication.** Service-users indicated what their understanding of why they were prescribed a particular medication was. As shown in Figure 1, for those who were prescribed one or more antipsychotics ( $n = 6$ ), the most commonly endorsed reasons were paranoia ( $n = 5$ ) and hallucinations ( $n = 5$ ). Other frequently endorsed reasons included: helping to buffer from stress ( $n = 4$ ) and mood fluctuations ( $n = 4$ ). All service-users who were prescribed an antidepressant ( $n = 3$ ) understood that the purpose of the medication was to help with depressed mood. Other endorsed reasons included: sleep, paranoia, hallucinations and anxiety. All those prescribed Z drugs understood that the purpose of the medication was to help with sleep. Service-users prescribed anxiolytics ( $n = 3$ ) all believed that these were prescribed for symptoms of anxiety and also for sedation. Other reasons endorsed included: to buffer from stress, sleep and mood fluctuations.

Figure 1 *Service-users’ understanding of why there were prescribed a particular medication*



\* Included: Olanzapine, Risperidone, Aripiprazole (n = 6)  
\*\* Included: Citalopram, Fluoxetine, Mirtazapine (n =3)  
\*\*\* Included: Zopiclone (n =3)  
\*\*\*\* Included: Diazepam, Lorazepam (n =3)

**Changing or stopping medication.** Two of the seven service-users said that they had stopped or altered their medication without telling an EIP worker. Three out of the seven service-users asked gave reasons as to why it may be hard to discuss changing or stopping medication with EIP workers. Two of these said that they would be concerned about EIP workers worrying more about them. Other reasons endorsed included: wanting to test for themselves whether they could manage without medication ( $n = 1$ ), not wanting to take medication in the first place ( $n = 1$ ) and being concerned that the EIP workers would tell family members or significant others ( $n = 1$ ).

**Uncertainty over taking medication.** Only one of the seven service-users asked indicated that they had been reluctant to take medication for the symptoms they were experiencing. When asked how the EIP workers responded to this, the service-user endorsed the following items: looked into other treatment options (for example talking therapy) and discussed with other people involved in their care such as family members.

**Reasons for choosing not to take antipsychotic medication.** Service-users indicated under what circumstances they may choose not to take medication for psychosis. Of the six service-users who responded, one service-user said that under no circumstance would they not take medication for psychosis as for them; the potential benefits would outweigh any costs. Reasons for choosing not to take antipsychotics endorsed by other service-users included: finding another way to manage / cope with symptoms ( $n = 3$ ), concern about side-effects ( $n = 3$ ), feeling pressurised or coerced by EIP workers or family ( $n = 1$ ), knowing other people who have had bad experiences on medication ( $n = 1$ ), feeling paranoid about EIP workers ( $n = 1$ ), the cost of prescriptions ( $n = 1$ ) and the stigma attached to taking medication for mental ill health ( $n = 1$ ).

**Having choice and control over starting and changing medication regime.** Six service-users felt able to rate on a scale of 0-100 the extent they felt that starting medication for psychosis was their choice from *none at all* (0) to *it was totally my choice* (100). The mean rating was 58 ( $SD = 49$ ) and the range was 0 to 100.

Six service-users rated how much choice they felt they had over *which* medications were prescribed. The mean rating was 47 ( $SD = 47$ ) and the range was 0-100. When asked to rate how much input they had into changing the medication regime in terms of type or dose of medication, the mean rating was 78 ( $SD = 32$ ) and the range was 30-100.

**Choice over treatment.** Six respondents felt able to rate on a scale of 0 to 100, how much choice they believed service-users should have over commencing antipsychotic treatment from *none at all* (0) to *choice being essential* (100). The mean rating given was 62 and the responses ranged from 0 to 100.

**Antipsychotics as the first line treatment.** Six service-users indicated on a scale of 0 (*not at all*) to 100 (*I fully believe this*) how much they agreed with the statement '*antipsychotics must always be the first line of treatment for people with psychosis*'. The mean percentage agreement was 48% and the range was 0-100%.

**Risks associated with not prescribing.** All of the seven service-users rated how much they agreed with the statement '*there are too many possible risks to delay the introduction of antipsychotic medication to people with a first episode of psychosis*'. The responses ranged from 0 to 100%, the mean percentage agreement was 60%.

**Views on antipsychotics and recovery.** Of the six service-users who indicated how much they agreed with the statement '*all service-users with psychosis require antipsychotic medication in order to recover*', the mean percentage agreement was 23% (range = 0 - 90%).

## Qualitative results

The final coding scheme included six main themes and 12 sub themes (Table 1). Each main theme is presented in the paragraphs that follow and supported by verbatim excerpts.

Table 1

*Themes extracted from the qualitative analysis*

Main themes	Sub themes
<b><i>Choice over treatment</i></b>  <i>As well as the broader issues of whether service-users wanted and felt that they had choice over treatment, they spoke more specifically about choice over changing their treatment plans.</i>	Changing treatment regime  Do service-users want choice over treatment?
<b><i>Informed decision-making</i></b>  <i>Service-users spoke about the information they were provided regarding different treatment options and whether they were able to use such information to make informed decisions about treatment.</i>	Information provision  Barriers to informed decision-making
<b><i>Attitude towards taking medication</i></b>  <i>Service-users had different attitudes towards taking medication for the symptoms they were experiencing.</i>	Not in favour of taking medication  In favour of taking medication
<b><i>Others input into treatment decisions</i></b>  <i>The perception of how helpful different individuals had been in the decision-making process was highlighted.</i>	Significant others' role in treatment decisions  Professionals guiding treatment decisions



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***Individualised treatment***

*Specific variables were identified which influenced service-users' views on treatment options.*

Symptom profile

Awareness or insight

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***Intervention in EIP services***

*The range of interventions offered by EIP services was recognised. Service-users had views on the order in which interventions should be tried. .*

Order of interventions offered

Treatment options in EIP

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***Choice over treatment.*** Service-users commented on their attitude towards having choice over treatment, and more specifically, having input in to changes in their medication regime. There seemed to be a divide in terms of whether service-users wanted choice over their treatment. Some were happy to follow whatever treatment was recommended, others felt they should have choice over their treatment but be guided towards a decision by EIP workers. One service-user felt strongly that they wanted medication and therefore they did not feel that there was a choice to be made.

*“I believe that people experiencing first episodes of psychosis should obviously have a choice in their treatment but also should be helped in the right direction.”*

[Service-user 1]

*“Totally wanted medication as I was sure it was best for the condition I thought I had.”* [Service-user 5]

There was evidence from some service-users that they did have input into changes in their medication regime, both in terms of dose and type of drug. However, others felt that they got what they were prescribed without having much input into the process. One service-user said that they did not get on with the clinician who was prescribing them medication and felt as though they did not have any choice in seeing anyone else. Others felt that whilst they had not changed their medication regime, they would feel able to talk to their EIP worker about this should they want to.

*“I remember being given the choice of switching from Olanzapine to Aripiprazole.”*

[Service-user 7]

*“I got prescribed what I was given.”* [Service-user 2]

*“If I felt I wanted to change or stop taking medication I would inform [Name of EIP worker] ASAP.”* [Service-user 1]

**Informed decision-making.** Service-users talked about the different ways in which information about treatment options was provided to them. Methods mentioned included leaflets and discussion. However, there was evidence from the service-users that some experienced barriers to processing and understanding the information that was provided. The main barrier identified was mental state at the time the information was provided. For some, this meant that they were taking medication but did not understand what it was or what it did.

*“At the time of starting meds I wouldn’t have had any capacity to read information.”*

[Service-user 2]

*“I was told it was a neuroleptic but I still don’t really know what it does.”*

[Service-user 4]

**Attitude towards taking medication.** Broadly, service-users commented on their attitude towards taking medication for their symptoms. Some service-users felt strongly that medication was the best option; others felt it was best used in combination with other approaches, such as talking therapies. A minority of service-users indicated that they were not in favour of medication. Reasons were given for this and included not finding that they alleviated the symptoms that they were experiencing and knowing that people can recover with other, non-drug, treatments.

*“I have a science background and I feel I am biased in favour of medication.”*

[Service-user 5]

*“The medication definitely helps when used in conjunction with other techniques e.g. CBT, psychology work.”* [Service-user 7]

*“Didn’t really want to take meds in first place and didn’t make much difference...some people can be alright with CBT or other means without drugs.”*  
[Service-user 6].

**Others input into treatment decisions.** Some service-users commented on their experience of having family members or significant others involved in conversations around treatments. There was a clear split between those who thought this was helpful due to their mental state at the time, and others who felt that family members did not need as much input as they had. In contrast to this, there was a consensus that having EIP professionals involved in treatment decisions was helpful.

*“I personally think they [family members/ significant others] didn’t need quite as much input.”* [Service-user 7]

*“One may not be thinking straight so may need to be persuaded to take medication until they feel well enough to make a reasonable choice.”* [Service-user 5]

**Individualised treatment.** The majority of service-users identified various person- and/or illness-related variables which should influence the treatment plan and determine whether an individual can have choice over their treatment. Service-users talked about mental state, risk to self and others and insight. There was also reference to personal situations and circumstances influencing a person’s treatment.

*“I think it all depends on the personal situation and how that particular person is being affected.”* [Service-user 1]

*“I thought I was in the FBI during my first episode of psychosis and I had no awareness at all. Should depend on how aware a person is.”* [Service-user 5]

**Intervention in EIP services.** Service-users highlighted that there are a range of different treatment options available in EIP services and that all possible options should be explored. Some service-users indicated that they believed that people can recover without medication and also that individuals may have their own ideas about what will help them. A number of service-users commented on the order of different interventions, specifically whether medication should come before, after or at the same time as other approaches.

*“From my experience with [Name of EIP worker] I believe the initial problem should be sourced before medication is prescribed.”* [Service-user 1]

*“Don’t think psychological understanding is separate to using medication.”*  
[Service-user 4]

## Discussion

This study aimed to examine EIP service-users' attitudes towards, and experiences of, treatment for psychosis including having choice over their treatment. The data revealed that different methods are used by EIP professionals to aid informed decision-making about treatment (written material, discussion, videos, talking to other service-users) and service-users had a relatively accurate understanding of why they were prescribed a certain medication. Also, service-users had clear views about different treatment options and were able to explain their views and provide a rationale. Factors were identified which may prevent a service-user from taking medication, yet there was little evidence from the results that service-users were reluctant to take medication for psychosis. Whilst service-users in this study generally acknowledged the importance of having choice over treatment, particularly medication, a number of variables were identified which influenced their perspectives on this including insight into illness and issues of risk. Lastly, service-users valued the range of treatment options, including non-drug treatments, available in EIP services.

Comparison of the current findings with a study which examined service-users' experiences of taking antipsychotic medication for psychosis highlights similarity in terms of service-users' evaluation of antipsychotics being mixed with some individuals identifying them as helpful whilst others not, being aware of the costs and benefits of different treatments and there being a spectrum of views on how active the service-user is in treatment decisions (Carrick et al., 2004). Both studies also recognised that the *process* of making decisions about treatment as well as the treatment itself needs to be individualised; there are various factors which might influence how active a person can be in treatment decisions and also how much choice or control is '*enough*' for a given individual. Unlike in the qualitative study reported by Carrick and colleagues, none of the service-users included in the current study explicitly stated that they received insufficient information about medication and the survey revealed that service-users' had relatively accurate knowledge of what symptoms a medication had been prescribed for. This difference between the studies may in part be due to the service contexts and the nature of the participants involved; in the study by Carrick and colleagues, the average length of

time on medication was 11.8 years indicating a sample of people with longer term difficulties (Carrick et al., 2004). Alternatively, it may be that professional attitudes and practice have evolved over the last ten years.

Other qualitative studies have demonstrated the importance of people with psychosis being involved in treatment decisions which overlaps with the themes of ‘choice over treatment’ and ‘others input into treatment decisions’ identified in the current study (Carrick et al., 2004; O’Toole et al., 2004). This suggests a degree of generalizability of the findings. For example, one study found that service-users with a first episode of psychosis identified being involved in treatment decisions (for example, “*they listen and ask your opinion*”, “*they make me feel involved in what’s happening to me*”) as central to the recovery process (O’Toole et al., 2004). As such, it is crucial that service-users’ views and beliefs about treatment are listened to and respected. This recommendation is in line with national guidance which highlights the importance of fostering service-user autonomy and promoting participation in treatment decisions (National Institute for Clinical Excellence, 2011).

The results from the current study also indicate that at times, service-users do not feel able to contribute to treatment-related decisions and also in more acute states, they are not always able to make use of the information provided regarding treatment options. In such situations, EIP workers should discuss with the service-user whether they want family or significant others to be involved in treatment-related decisions. It is important that such discussions take place at regular intervals to account for changes in circumstances and fluctuations in the individuals’ mental state. EIP workers should also be creative in the way in which information about treatment options is conveyed and this should be titrated to the individual’s needs. As well as discussion and written material, some service-users may benefit from other mediums such as DVDs, internet resources and the opportunity to speak to other’s who have received similar treatments for psychosis.

What is considered important by professionals in EIP services may be in contrast to experience and views of service-users. Therefore it is important to compare and contrast both perspectives. In our previous service-related project, we surveyed a multidisciplinary EIP staff team on the topic of treatment for psychosis and service-users’ having choice over their treatment (Cowdrey et al., In

preparation). In line with the views of service-users, in principle the staff acknowledged the importance of service-users having choice over their treatment and were in favour of it, but they identified a number of variables which could challenge this such as capacity to make such decisions and severity of symptoms. These factors have also been identified as barriers to shared decision-making by psychiatrists working across different mental health services (Shepherd et al., 2014). Staff also identified a number of methods used to facilitate informed decision-making; the most frequently employed strategies (discussion and written material) were also reported by service-users.

When asked to rate a series of statements about the use of antipsychotics, service-users felt more strongly than staff that antipsychotics should be the first line treatment and also that there are too many risks to delay the introduction of antipsychotics. That said, both staff and service-users indicated to a similar degree that antipsychotics are not always required in order to recover. Further, when asked about how much choice people with psychosis should have over starting antipsychotic medication, service-users were more conservative than staff (63 versus 85 out of 100). This suggests that whilst having choice is important to both staff and service-users, many service-users will still make the capacious decision to take antipsychotic medication as for them the possible reduction of symptoms outweighs any costs. It is possible that service-users' views on treatment options may be influenced by the explanatory framework they have for their symptoms, which may in turn be influenced by the psychoeducation provided by health care professions. For example, if an individual has a more biological understanding of their 'mental illness' they may be more likely to view medication as crucial. Whilst not specifically on psychosis, a series of studies have demonstrated that the explanatory framework employed by an individual regarding mental health difficulties influences their views on treatment options and recovery (Lam & Salkovskis, 2007; Lam, Salkovskis & Warwick, 2005)

## **Limitations**

The small sample size in this study and recruitment from one EIP service limits the generalizability of the results. Further, the service-users were selected by members of the EIP team and this could be a potential source of bias as service-users who have had a positive experience may have been overrepresented. The mean length of time accessing support from the EIP service was relatively long (33 months) and therefore it is uncertain whether the results would generalise to service-users new to the service. Also, the views expressed may have been influenced by the retrospective nature of the study. The fact that EIP workers supported service-users in completing the survey may have influenced service-users' responses, particularly as the service-users were open to the EIP team at the time of data collection. Lastly, the homogeneity of service-users in terms of ethnic origin is a significant limitation as there is evidence that individuals from black and minority ethnic (BME) groups have different treatment experiences and possibly attitudes towards mental illness than White British service-users (Department of Health, 2003; Moffat, Sass, McKenzie, & Bhui, 2009).

## **Implications for service-improvement and further research**

The survey used in the current study was designed as a tool for service-improvement. A number of recommendations for EIP services can be made based on the findings. Whilst service-users value choice over their treatment, under certain circumstances, they may not feel able to make such decisions. It may be appropriate to involve family members or carers in such decisions, although this needs to be considered with the service-user first. Given the diversity in responses, people should be given choice over how much they want to be involved in decisions about their treatment and how much they want others to be involved. If they want to be involved, all possible treatment options should be discussed with service-users and information should be provided using different mediums so that every effort has been made to assist them in decision-making. EIP services could make use of information packs which contain the relevant treatment information in different formats. EIP workers should be mindful that service-users' may have strong views on treatment for psychosis and these should always be taken into account when weighing-up the different options. Lastly, as insight and capacity fluctuates,



decisions around treatment options should be revisited throughout people's involvement with EIP services to ensure that they are involved in treatment decisions should they want to be.

The data also has implications for future research. To enable further exploration of the emergent themes, larger and more representative samples should be recruited. For example, service-users from BME groups, those who are medication-naïve or those who have not complied with a medication regime may have had different experiences of treatment in EIP services. Family members should also be recruited to explore certain themes, such as their role in discussions around treatment and barriers to service-users having choice over their treatment. Examining the association between service-users' explanatory framework for psychosis and views on treatment also warrants further exploration. Lastly, it would be useful to map how treatment utilization and perceived choice changed during the course of EIP involvement. This could be particularly important given that some service-users felt that, once started, they could not discuss stopping medication with an EIP worker. Also, it will be important to investigate the most effective format for providing information; a range of options may be necessary to accommodate individual differences in this respect.

## **Conclusions**

There is huge variation in service-users' experiences of treatment for psychosis and also their views on the type of treatment that is necessary and how much choice they should have over treatment. Whilst having choice over treatment may be important to some service-users accessing EIP services, this is not always the case. There are a number of factors which influence whether service-users want or feel able to have choice over their treatment. EIP staff should always explore different treatment-options fully with service-users but be aware that they may have their own views or feel unable to make the decision themselves and this should be respected as far as is possible.

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## **Appendix E Survey for service-users**

### **Promoting choice over treatment in the South Gloucestershire early intervention service for psychosis**

Thank you very much for agreeing to take part in this service improvement project.

Please complete the survey and return to the researcher using the stamped–addressed envelope provided or via email attachment. If you have any questions or require further information, please contact one of the researchers (details at the end of the survey).

We are particularly interested in whether people involved in the service felt they were given choice over treatment, especially medication. Even if you are not taking medication for psychosis, we are interested in hearing your views and so please answer the background questions and Section B only. If you have taken medication for first episode psychosis, please complete the background questions and both Section A and B.

**Background information:**

Age: [Click here to enter text.](#)

Gender: [Click here to enter text.](#)

Ethnic origin: [Click here to enter text.](#)

Total time receiving support from the South Gloucestershire EI service (years, months): [Click here to enter text.](#)

Was your first contact with the EI team following admission to hospital: Yes ☐ No ☐

Have you ever taken medication for first episode psychosis: Yes ☐ No ☐

If **YES**, what medications have you taken/ do you take for first episode psychosis?  
(*Select one or more*)

Antipsychotics (for example, olanzapine, quetiapine, risperidone, clozapine).	<input type="checkbox"/>	Antidepressant (for example, amitriptyline, fluoxetine, citalopram, mirtazepine, paroxetine, sertraline).	<input type="checkbox"/>
---	--------------------------	---	--------------------------

Antianxiety or tranquilizers (for example, benzodiazepines – diazepam, lorazepam / beta blockers / buspirone).	<input type="checkbox"/>	Sleeping tablets (for example, zopiclone, temazepam, ambien).	<input type="checkbox"/>
--	--------------------------	---	--------------------------

Other (please specify) ☐

If **No**, which of the following statements describe your situation better?

*I was prescribed medication but decided not take it* ☐

*Medication was not ever prescribed* ☐

**SECTION A** *(If you have taken medication for first episode psychosis)*

• **What kind of information were you provided regarding medication?**

*(Select one or more)*

- |  |                          |   |                          |
|--|--------------------------|---|--------------------------|
| Signposting to resources on the internet.  | <input type="checkbox"/> | Discussion of different medications.  | <input type="checkbox"/> |
| Discussion about the possible adverse effects of different medications.                            | <input type="checkbox"/> | Leaflets or hand-outs with information about medications and side effects.  | <input type="checkbox"/> |
| The option of discussing the medication with people who have had previous experience of taking it. | <input type="checkbox"/> | Other educational material- for example, video clips of other peoples' experiences of taking certain medications. | <input type="checkbox"/> |
| Discussion about how different medications actually work and have their effect.                    | <input type="checkbox"/> | I was not provided with any information before I started taking medication.                                       | <input type="checkbox"/> |
| Other (please detail below)  | <input type="checkbox"/> |   |                          |

*Comments / further details*

[Click here to enter text.](#)

• **On a scale of 0-100 (where 0 = not at all and 100 = very much so), how helpful did you find the information provided in helping you to decide whether to take medication?**

*Please rate the different types of information provided separately*

*(For example, leaflets = 60/ 100)*

[Click here to enter text.](#)



- **How much of the information provided regarding medication were you able to process and understand at the time?**

Not at all ☐

A bit ☐

Most of it ☐

All of it ☐

- **Were family members / significant others involved in conversations and decisions regarding medication? Yes ☐ No ☐**

- **If YES, on a scale of 0-100 (where 0 = not at all and 100 = very helpful) how helpful was it to have family member / significant others involved?**

*Answer and further comments*

Click here to enter text.

- **If NO, why were family members / significant others not involved in conversations and decisions regarding medication?** *(Select one or more)*

- |   |                          |  |                          |
|---|--------------------------|--|--------------------------|
| Family members / significant others did not know about my difficulties.                               | <input type="checkbox"/> | I was not given the opportunity to involve family members / significant others in such conversations.                                    | <input type="checkbox"/> |
| Family members / significant others did not want involvement with mental health professionals.        | <input type="checkbox"/> | Family members / significant others were unable to attend the appointments for practical reasons (e.g. work commitments, live far away). | <input type="checkbox"/> |
| I did not have any family members / significant others whom it would be appropriate to invite.        | <input type="checkbox"/> | Family members / significant others thought I should do whatever the EI service suggested and so did not need to attend.                 | <input type="checkbox"/> |
| I did not want my family members/ significant others involved in treatment discussions and decisions. | <input type="checkbox"/> | Other (please detail below)  | <input type="checkbox"/> |

*Comments / further details*

[Click here to enter text.](#)

- **Did it make a difference to you in terms of which member of the EI team prescribed the medication?** *(Select one or more)*

- |   |                          |   |                          |
|---|--------------------------|---|--------------------------|
| I preferred seeing a nurse prescriber for my prescriptions. | <input type="checkbox"/> | I preferred seeing the psychiatrist (medical doctor) for my prescriptions.                | <input type="checkbox"/> |
| It made no difference to me who prescribed the medication.  | <input type="checkbox"/> | It made no differences as long as I had met the person who wrote the prescription before. | <input type="checkbox"/> |
| I do not remember who wrote the prescriptions               | <input type="checkbox"/> |   |                          |

*Comments / further details*

[Click here to enter text.](#)

- **What was your understanding of why you were prescribed a particular medication?** *(Please indicate for each of the medications you were prescribed)*

**Medication 1:** *(Please insert the name of the medication here)* [Click here to enter text.](#)

Sleep	<input type="checkbox"/>	Lack of emotion or inappropriate emotional display	<input type="checkbox"/>
Appetite	<input type="checkbox"/>	Loss of energy or motivation	<input type="checkbox"/>
Depression	<input type="checkbox"/>	Mood fluctuations (e.g. high and low moods)	<input type="checkbox"/>
Anxiety	<input type="checkbox"/>	Behavioural changes (e.g. aggression, hostility).	<input type="checkbox"/>
Sedation / chill me out	<input type="checkbox"/>	Feeling paranoid	<input type="checkbox"/>
Memory and concentrations	<input type="checkbox"/>	Help buffer from stress	<input type="checkbox"/>
Hallucinations (e.g. hearing voices no-one else hears, seeing things that aren't there)	<input type="checkbox"/>	Having confused thoughts or talking in a confused way.	<input type="checkbox"/>
Delusions	<input type="checkbox"/>	To improve general health and wellbeing	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	Physical difficulties (e.g. nausea, balance problems)	<input type="checkbox"/>

**Medication 2:** *(Please insert the name of the medication here)* [Click here to enter text.](#)

Sleep	<input type="checkbox"/>	Lack of emotion or inappropriate emotional display	<input type="checkbox"/>
Appetite	<input type="checkbox"/>	Loss of energy or motivation	<input type="checkbox"/>
Depression	<input type="checkbox"/>	Mood fluctuations (e.g. high and low moods)	<input type="checkbox"/>
Anxiety	<input type="checkbox"/>	Behavioural changes (e.g. aggression, hostility).	<input type="checkbox"/>
Sedation / chill me out	<input type="checkbox"/>	Feeling paranoid	<input type="checkbox"/>
Memory and concentrations	<input type="checkbox"/>	Help buffer from stress	<input type="checkbox"/>
Hallucinations (e.g. hearing voices no-one else hears, seeing things that aren't there)	<input type="checkbox"/>	Having confused thoughts or talking in a confused way.	<input type="checkbox"/>
Delusions	<input type="checkbox"/>	To improve general health and wellbeing	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	Physical difficulties (e.g. nausea, balance problems)	<input type="checkbox"/>

**Medication 3:** *(Please insert the name of the medication here)* [Click here to enter text.](#)

Sleep	<input type="checkbox"/>	Lack of emotion or inappropriate emotional display	<input type="checkbox"/>
Appetite	<input type="checkbox"/>	Loss of energy or motivation	<input type="checkbox"/>
Depression	<input type="checkbox"/>	Mood fluctuations (e.g. high and low moods)	<input type="checkbox"/>
Anxiety	<input type="checkbox"/>	Behavioural changes (e.g. aggression, hostility).	<input type="checkbox"/>
Sedation / chill me out	<input type="checkbox"/>	Feeling paranoid	<input type="checkbox"/>
Memory and concentrations	<input type="checkbox"/>	Help buffer from stress	<input type="checkbox"/>
Hallucinations (e.g. hearing voices no-one else hears, seeing things that aren't there)	<input type="checkbox"/>	Having confused thoughts or talking in a confused way.	<input type="checkbox"/>
Delusions	<input type="checkbox"/>	To improve general health and wellbeing	<input type="checkbox"/>
Other (please specify)	<input type="checkbox"/>	Physical difficulties (e.g. nausea, balance problems)	<input type="checkbox"/>

- **Have you ever altered or stopped taking your medication without telling a member of the EI team?** Yes ☐ No ☐

- **What factors might make it hard to discuss changing and/or stopping taking your medication with a member of the EI team?** (*Select one or more*).

- |  |                          |   |                          |
|--|--------------------------|---|--------------------------|
| Concern that they would tell my family / significant other.          | <input type="checkbox"/> | Concern that they would try and talk me out of it.            | <input type="checkbox"/> |
| Concern that the EI team member will worry more about me.            | <input type="checkbox"/> | Feeling paranoid about the EI team member / medication.       | <input type="checkbox"/> |
| It is my choice – I am not obliged to tell anyone.                   | <input type="checkbox"/> | Not having a good relationship with the EI team worker.       | <input type="checkbox"/> |
| If I was having embarrassing side effects.                           | <input type="checkbox"/> | Wanting to test for myself whether I can manage without them. | <input type="checkbox"/> |
| Concern that they would start looking out more for signs of relapse. | <input type="checkbox"/> | If I had felt pushed into taking them in the first place.     | <input type="checkbox"/> |
| Other (please specify)   | <input type="checkbox"/> |   |                          |

*Further details / comments*

Click here to enter text.

- **Were you at all reluctant to take medication for first episode psychosis?**

Yes ☐ No ☐

- **If YES, how did the EI team member manage this? (Select one or more)**

- |  |                          |  |                          |
|--|--------------------------|--|--------------------------|
| Provided me with more information on the medication.                                     | <input type="checkbox"/> | Gave me time to think.   | <input type="checkbox"/> |
| Applied more pressure  | <input type="checkbox"/> | Accepted my decision   | <input type="checkbox"/> |
| Got other members of the team involved (e.g. the psychiatrist).                          | <input type="checkbox"/> | Looked into other treatment options, for example talking therapy.  | <input type="checkbox"/> |
| Discussed with other people involved in my care (e.g. significant other, family member). | <input type="checkbox"/> | Concerns about interactions between the medication and preexisting physical health difficulties / medications. | <input type="checkbox"/> |
| Conducted an assessment of my mental capacity to make treatment decisions                | <input type="checkbox"/> | Re-visited the issue of medication at a later date.  | <input type="checkbox"/> |
| Other (please specify)   | <input type="checkbox"/> |  |                          |

*Further details / comments*

[Click here to enter text.](#)

- **On a scale of 0-100 (where 0 = not at all, and 100 = very much so), to what extent do you feel that any specific concerns you had about medication were listened to and addressed by EI team members?**

•

*Answer and further comments*

[Click here to enter text.](#)

• **Under what circumstances may you choose not to take medication for psychosis?** *(Select one or more).*

- |  |                          |  |                          |
|--|--------------------------|--|--------------------------|
| Concern about side effects<br>(for example, feeling sleepy,<br>sexual dysfunction, weight<br>gain) | <input type="checkbox"/> | The cost of prescriptions.   | <input type="checkbox"/> |
| If I have found another way<br>to manage / cope with<br>symptoms.                                  | <input type="checkbox"/> | Feeling paranoid or suspicious about<br>the medication and/ or EI team<br>member.                                      | <input type="checkbox"/> |
| Concern about becoming<br>addicted to the substance  | <input type="checkbox"/> | Feeling pressurised or coerced into it<br>by the EI team member and/ or family<br>member.                              | <input type="checkbox"/> |
| The stigma attached to taking<br>medication for mental health<br>difficulties.                     | <input type="checkbox"/> | Concerns about interactions between<br>the medication and preexisting physical<br>health difficulties / medications.   | <input type="checkbox"/> |
| Against my values, beliefs or<br>religion  | <input type="checkbox"/> | Knowing other people who have had<br>bad experiences with such medication.   | <input type="checkbox"/> |
| Having more belief in a<br>psychological understanding<br>and treatment for psychosis.             | <input type="checkbox"/> | Not being provided with a clear<br>rationale for taking the medication.  | <input type="checkbox"/> |
| Concerns about driving and<br>operating machinery.   | <input type="checkbox"/> | Not being given an opportunity to ask<br>questions about the medication.   | <input type="checkbox"/> |
| Other (please specify)   | <input type="checkbox"/> | Under no circumstances would I<br>choose not to take medication for<br>psychosis – the benefits outweigh any<br>costs. | <input type="checkbox"/> |

*Further details / comments*

Click here to enter text.



- **On a scale of 0-100 (where 0 = not at all, and 100 = it was totally my choice), to what extent do you feel that starting medication for psychosis was your choice?**

*Answer and further comments*

Click here to enter text.

- **On a scale of 0-100 (where 0 = none at all, and 100 = it was totally my choice), how much choice do you feel you had over which medications were prescribed?**

*Answer and further comments*

Click here to enter text.

- **On a scale of 0-100 (where 0 = none at all, and 100 = as much as I could imagine), how much input did you have to changes in medication in terms of type or dose (increases or reductions)?**

*Answer and further comments*

Click here to enter text.

## **SECTION B**

- **On a scale of 0 to 100 (where 0 = none at all, and 100 = choice is essential) how much choice do you believe people with a first episode of psychosis should have over starting antipsychotic treatment?**

**Answer and further comments**

Click here to enter text.

- **Based on your experiences, on a scale of 0-100 (where 0 = not at all and 100 = I fully believe this), how much do you agree with the following statements:**

*“Antipsychotics must always be the first line of treatment for people with psychosis”*

**Answer and further comments (where 0 = not at all and 100 = I fully believe this)**

Click here to enter text.

*“There are too many possible risks to delay the introduction of antipsychotic medication to people with a first episode of psychosis”*

**Answer and further comments (where 0 = not at all and 100 = I fully believe this)**

Click here to enter text.

*“All people with first episode psychosis require antipsychotic medication in order to recover.”*

**Answer and further comments (where 0 = not at all and 100 = I fully believe this)**

Click here to enter text.

**Please use this space for any further comments or thoughts regarding choice over treatment.**

Click here to enter text.

Thank you very much for your help. Please return the completed survey to the researcher or the supervisor by email attachment or post using the envelope provided.

If you would like to be put into the draw to win a £25 Amazon gift voucher please provide a contact detail below:

I would like to be put into the draw ☐

I would like to hear about the results of the study ☐

Contact email or postal address:

[Click here to enter text.](#)

**Researcher team:**

**Researcher:** Dr. Felicity Cowdrey, Clinical Psychology Unit and Research Centre, University of Bath, Bath, BA27AY; Email: felicity.cowdrey@nhs.net; Telephone on 01225 385745.

**Supervisors:** Dr. Kate Chapman, Psychological Therapies Service, Cedar House, Blackberry Hill Hospital, Fishponds, Bristol; Email: kate.chapman@awp.nhs.uk; Telephone on 01173 784482.

Lorna Hogg, Clinical Psychology Unit and Research Centre, University of Bath, Bath; Email: l.i.hogg@bath.ac.uk; Telephone on 01225 386563.

## Appendix F Flyer for dissemination of project findings to service-users and EIP staff

### What needs to happen to improve the early intervention for psychosis service?

1. People should be given choice over how much they want to be involved in treatment decisions.
2. If they want to be involved, professionals should explain all treatment choices
3. Professionals should use recent research findings to help the service user make a decision about the best treatment for them.
4. Significant others (such as family members) should be involved in the treatment decision if the service user wants them to.
5. Professionals need to be creative in the way they give information about treatment options. For example, they could use videos as well as written material.

### Whats next?

This project highlighted some further areas for research.

These include:

1. Exploring how service users' views on treatment changes over time.
2. Working out the best way of giving information about treatment choices to service users and their families.
3. Investigating whether the explanation of psychosis given to the serviceuser influences their views on what type of treatment they should have.

If you have any comments or questions about the research please contact Felicity by emailing:

[felicity.cowdrey@nhs.net](mailto:felicity.cowdrey@nhs.net)



**PROMOTING**  
CHOICE OVER TREATMENT

**IN THE SOUTH**  
**GLoucestershire**

**EARLY INTERVENTION FOR**  
**PSYCHOSIS**  
**SERVICE**

**RESEARCHERS: FELICITY COWDREY**  
**KATE CHAPMAN AND LORNA HOGG**



## THANK YOU

For taking the time to read this leaflet. This leaflet talks about the findings from a recent project we did involving both health care professionals and service users from the South Gloucestershire early intervention for psychosis service.

### What was the purpose of the project?

We explored people's views on different treatment options for psychosis and how much choice they think people with psychosis should have over their treatment.

This is important because research shows that both medication and talking therapies may be helpful for people with this condition. Before we did this project, there was not very much research actually asking what health care professionals and service users thought about this or how much choice service users' should have over their treatment.

### What did we do?

With the help of some people who had previously received support from the early intervention service, we designed two surveys. One version of the survey was designed for health care professionals and the other was designed for service users.

The survey asked what people thought about different treatment options, the factors which influence treatment decisions and people's experiences and views on having choice over treatment.

Seven people who were receiving support from the early intervention for psychosis service as well as nine professionals completed the survey.

### What did we find?

1. There were many differences in service users' experiences of treatment for psychosis, their views on the type of treatment that is necessary and how much choice they should have over treatment.

2. Whilst having choice over their treatment may be important to some service users, this was not always the case.

3. There were a number of factors which influence whether service users want or feel able to have choice over their treatment (eg., mental state and their experience of different treatments in the past).

4. Professionals said they support service users having choice over their treatment but sometimes there are factors which make this hard including the person's mental state and how long a person has been experiencing psychotic symptoms.

5. The majority of service-users and professionals did not think that antipsychotic medication was always needed to recover or that antipsychotic medication should be the first type of treatment that is tried. Experiencing psychotic symptoms.

## Appendix G Instructions for authors for main research project

### The Journal of Anxiety Disorders

#### Editorial guidance

The *Journal of Anxiety Disorders* publishes articles of relevance to the epidemiology, psychopathology, etiology, assessment, treatment, and prevention of anxiety and related disorders in both child and adult populations. The format of the articles includes randomized controlled trials, single case clinical outcome studies, theoretical expositions, epidemiological studies, investigations of early mechanisms of risk, genetic and biomarker studies, neuroimaging studies, critical literature reviews, meta-analyses, and dissemination and implementation studies. We are also interested in evaluations of novel treatment delivery strategies, including the use of information technologies. Authors are encouraged to use methodologically rigorous sampling, structured or semistructured diagnostic interviews, randomization, therapist fidelity, and inter-rater reliability procedures where appropriate. Given limited journal space, we can accept only a limited number of studies, and we prefer to publish studies of clinical or community samples. However, we recognize that studies using other samples (e.g., undergraduate analogues) can provide meaningful increments to knowledge. Therefore, while emphasizing our preference for clinical or community samples that are most appropriate for the question under study, we will consider studies using other samples in so far as we judge them to make a significant incremental contribution to the understanding of anxiety and related disorders or anxiety psychopathology more broadly.

#### NEW SUBMISSIONS

Submission to this journal proceeds totally online and you will be guided stepwise through the creation and uploading of your files. The system automatically converts your files to a single PDF file, which is used in the peer-review process.

As part of the Your Paper Your Way service, you may choose to submit your manuscript as a single file to be used in the refereeing process. This can be a PDF file or a Word document, in any format or layout that can be used by referees to evaluate your manuscript. It should contain high enough quality figures for refereeing. If you prefer to do so, you may still provide all or some of the source files at the initial submission. Please note that individual figure files larger than 10 MB must be uploaded separately.

#### References

There are no strict requirements on reference formatting at submission. References can be in any style or format as long as the style is consistent. Where applicable, author(s) name(s), journal title/book title, chapter title/article title, year of publication, volume number/book chapter and the pagination must be present. Use of DOI is highly encouraged. The reference style used by the journal will be applied to the accepted article by Elsevier at the proof stage. Note that missing data will be highlighted at proof stage for the author to correct.

#### Formatting requirements

There are no strict formatting requirements but all manuscripts must contain the essential elements needed to convey your manuscript, for example Abstract, Keywords, Introduction, Materials and Methods, Results, Conclusions, Artwork and Tables with Captions. If your article includes any Videos and/or other Supplementary material, this should be included in your initial submission for peer review purposes.

Divide the article into clearly defined sections.

#### Figures and tables embedded in text

Please ensure the figures and the tables included in the single file are placed next to the relevant text in the manuscript, rather than at the bottom or the top of the file.

#### Abstract

A concise and factual abstract is required. The abstract should state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if


essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself. The abstract should not exceed 150 words in length and should be submitted on a separate page following the title page.

### *Tables*

Please submit tables as editable text and not as images. Tables can be placed either next to the relevant text in the article, or on separate page(s) at the end. Number tables consecutively in accordance with their appearance in the text and place any table notes below the table body. Be sparing in the use of tables and ensure that the data presented in them do not duplicate results described elsewhere in the article. Please avoid using vertical rules.



## Appendix H Ethical approval for main study

  
**Health Research Authority**

**NRES Committee South Central - Oxford A**  
Bristol Research Ethics Committee Centre  
Whitefriars  
Level 3 Block B  
Lewins Mead  
Bristol  
BS1 2NT  
Tel: 01173421331

26 August 2014

Dr Sarah Halligan  
Reader in Developmental Psychology  
University of Bath  
Department of Psychology  
University of Bath  
Bath  
BA27AY

Dear Dr Halligan

<b>Study title:</b>	Parental Responses to Child Experiences of Trauma: the Role of Trauma Specific Behaviours and Parenting Style in Facilitating Child Psychological Adjustment
<b>REC reference:</b>	13/SC/0599
<b>Amendment number:</b>	SA2
<b>Amendment date:</b>	05 August 2014
<b>IRAS project ID:</b>	137454

The above amendment was reviewed by the Sub-Committee in correspondence.

**Ethical opinion**

The members of the Committee taking part in the review gave a favourable ethical opinion of the amendment on the basis described in the notice of amendment form and supporting documentation.

The Committee Members approved the addition of a second Clinical Doctorate student project, proposing to add three additional questionnaires to utilise the current sample and some of the information already collected

Other [Appendix 7 (student projects)]		05 August 2014
Other [Background interview]	3	05 August 2014
Research protocol or project proposal	4	05 August 2014

### Membership of the Committee

The members of the Committee who took part in the review are listed on the attached sheet.

### R&D approval

All investigators and research collaborators in the NHS should notify the R&D office for the relevant NHS care organisation of this amendment and check whether it affects R&D approval of the research.

### Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

We are pleased to welcome researchers and R & D staff at our NRES committee members' training days – see details at <http://www.hra.nhs.uk/hra-training/>

13/SC/0599:	Please quote this number on all correspondence
-------------	--

Yours sincerely



**Pp Ms Alison Eden**  
Alternate Vice Chair

E-mail: [nrescommittee.southcentral-oxforda@nhs.net](mailto:nrescommittee.southcentral-oxforda@nhs.net)

*Enclosures:* List of names and professions of members who took part in the review

*Copy to:* Ms Susan George, University Hospital's Bristol NHS Foundation Trust  
[susan.george@uhbristol.nhs.uk](mailto:susan.george@uhbristol.nhs.uk)

## **Appendix I Parent-child joint narrative instructions**

### Prior to start:

#### **1. Parent and child rate their current emotional state**

(not distressed  $\leftarrow \rightarrow$  very distressed [scale 1] AND relaxed  $\leftarrow \rightarrow$  agitated/stressed [scale 2]) on 0-10 point visual analogue scales. (*Parent to write down.*)

### Instructions for parent and child:

“We would now like you to talk to each other about the frightening event/ accident that happened and try to describe it together. You can do this in any way that you want; there are no rules. Try to begin just before the event happened, and include anything about what happened afterwards that you think is important. We will leave you to talk for as long as you like. When you have finished describing the event as much as you want in your own words please call us back and we will give you some cards with some extra questions to look at.”

LEAVE ROOM AND WAIT UNTIL CALLED BACK IN BEFORE GIVING  
PROMPT CARDS

ENSURE PARTICIPANTS HAVE BEEN TALKING FOR AT LEAST 1 MINUTE  
BEFORE GIVING CARDS – IF CALLED SOONER, GIVE A BASIC PROMPT  
SUCH AS “WE’LL JUST GIVE YOU A LITTLE LONGER TO SEE IF THERE IS  
ANYTHING YOU CAN THINK OF TO ADD. WE’LL BRING THE CARDS  
INTO THE ROOM IN A SHORT WHILE.”

### After the recall:

#### **1. Parent and child each rate their emotional state while describing what happened**

on 0-10 point visual analogue scales emotional state (not distressed  $\leftarrow \rightarrow$  very distressed [scale 1] AND relaxed  $\leftarrow \rightarrow$  agitated/stressed [scale 2]) (*Parent to write down.*)

## **Appendix J Prompts for joint narrative task**

What was happening just before the event?

What happened after the accident and before you arrived at hospital?

How did you feel at the time (of the event)?

Did you also notice any feelings in your body?

What sorts of things were going through your mind during the frightening event?

Who else was there and what were they doing?

How well were you able to cope at the time (of the event)?

What was happening when you were at the hospital?

How did you feel when you were in the hospital?

What sorts of things were going through your mind while you were at the hospital?

Who else was there and what were they doing, while you were at the hospital?

Do you feel like you've changed since what happened?

Are there any things you wouldn't do anymore since what happened?

## Appendix K Coding manual

Parental utterances will be coded on reminiscing style. Style captures what type of questions parents asked during the joint narrative as well as the amount of new and repetitive information contained within a question. Whilst only parental utterances are coded, child utterances may be referred to in order to provide context to the parental utterances.

Off topic utterances (those not related to the traumatic event in anyway) are not coded (for example, “*what is for dinner tonight?*”). Prospective information is not coded for style (for example, “*the next operation will not be as long as the last one*”).

If the coder is uncertain whether the utterance should be coded, an important question to ask is “*does the utterance facilitate or relate to the child’s memory of the frightening event*”. If the answer is no, it is likely that the utterance does not need to be coded. Another question to bear in mind when coding is “*does the parent was attempt to scaffold the child’s memory for the traumatic event in anyway?*” If the answer is yes, it is likely that the utterance should be coded. Non-verbal information is not coded. However, the coder may wish to use non-verbal information if they are uncertain whether or not to assign a code.

Whilst the majority of utterances will receive a code, it is normal for some to remain uncoded. Examples are provided throughout the manual.

### **Key references**

In order to develop the current coding manual, relevant coding manuals from the child anxiety and child development literature were identified and modified.

### **Chunking guidelines:**

Murray, L. & Pella, J.E. Maternal Discourse Style Coding Scheme-Anxiety Version (MDSCS-A). Winnicott Research Unit, University of Reading, Reading, UK.

Foa, E.B., DiSavino, P., & Turk, E. (1995). The Narrative Content Analysis System.

### **Style of reminiscing:**

Fivush, R., & Fromhoff, F. (1988). Style and structure in parent-child conversations about the past. *Discourse Processes*, 11, 337-355.

Reese, E., Haden, C. A., & Fivush, R. (1993). Parent-child conversations about the past: Relationships of style and memory over time. *Cognitive Development*, 8, 403-430.

Murray, L. & Pella, J.E. Maternal Discourse Style Coding Scheme-Anxiety Version (MDSCS-A). Winnicott Research Unit, University of Reading, Reading, UK.

## Chunking guidelines

The conventions described below should be used to break-down extended passages of speech into codable units. This process is referred to as ‘chunking’.

A chunk is a clause which may include an action but which is divided such that all words pertain to one and only one thought. In the transcripts, chunks should be represented by vertical lines.

**Example:** |Chunks will be contained within vertical lines.|

1. Chunking is guided by, but is not limited to, locating subject-verb phrases.
2. A second chunk may be an elaboration of a previous thought.
3. Any repetition of a previous chunk is a new chunk.
4. Causal statements such as “If-then” (as well as compound causal statements), “in order to”, “because”, “but”, “and”, “so”, etc., are usually considered two chunks.

**Correct example:** |The big man| in the big red suit| and the big grey beard.|

**Incorrect example:** |The big man in the big red suit and the big grey beard.|

In cases where the presence of the word ‘and’ is used to link intrinsically related entities it should not be viewed as a marker for identifying separate utterances:

**Correct example:** |You went with Mummy and Daddy.|

**Incorrect example:** |You went with Mummy| and Daddy.|

5. If a sentence includes several actions, each action should be chunked separately. However, lists of nouns or adjectives are all included within a single chunk.

**Correct example:** |She was aggressive, callous, mean|

**Incorrect example:** |She was aggressive, | callous, |mean|

6. Unfinished clauses are considered as separate thoughts and comprise one separate chunk per thought (unfinished thoughts = sentences attempted but not completed).
7. Dots represent a pause and pauses usually imply separate chunks. However dots occurring in the middle of a complete sentence or thought should be ignored.

8. Speech fillers (SF) such as “um”, “you know”, “I mean”, “like”, etc., are separate chunks.

**Correct example:** |Did you...,| erm...,| have fun at Granny’s?|

**Incorrect example:** |Did you..., erm..., have fun at Granny’s?|

Coding the word “like” as a SF due to its colloquial nature, can be incorrect. It is often used in place of the word “said” to indicate dialogue. For example, in the chunk “*He was like come over here. I want to rape you*” the word “like” would not be coded as a SF. Similarly for chunks such as “*And I am like....I’m like will you leave me alone...?*”

9. Self-dialogue (what the participant says to herself or others) is chunked according to normal rules. Dialogue of other people is one single chunk.
10. Single-word confirmatory/negatory/incredulous remarks are common in ordinary spoken language and should be chunked separately.

**Examples:**

|Yes.| (Confirmatory)

|No.| (Negatory)

|Really?!| (Incredulous)

11. A cue word/phrase is often present at the start of a sentence (“Right”, “Ok then”) and acts as a precursor to the subsequent utterance. The cue words should be treated as a separate chunk. In isolation, these words/phrases hold no meaning.

**Correct example:** |Right then.| How did you feel| when you had to go to the dentist?|

**Incorrect example:** |Right then. How did you feel| when you had to go to the dentist?|

12. Tag questions frequently occur at the end of sentences and should be treated as separate utterances. A tag question turns a statement into a question by adding an interrogative fragment.

**Correct example:** |You enjoyed it,| didn’t’ you?|

**Incorrect example:** |You enjoyed it, didn’t you?|



**Style of reminiscing:****Questions**

MQ	Memory questions
MQn	Memory questions with new information
MQr	Repetition of a memory question
YN	Yes-no questions
YNn	Yes-no questions with new information
YNr	Repetition of yes-no question

**Evaluations**

EVALc	Evaluations confirmations
EVALn	Evaluations negations

*Note:* As style codes are given for the parent's attempts to scaffold the child's memory, information which is provided by the parent which focuses on the future should not be coded.

## **Overview of style codes:**

### ***Memory question (MQ) / Memory question new (MQn)***

Any question the parent asks that is meant to elicit a new piece of information from the child (e.g., “*Where did you hurt your finger?*”) (MQ) and also any question that contains new information regarding the event in the question (e.g., “*What sound did the machine make?*” when the machine has never been mentioned before) (MQn).

### ***Memory question repetition (MQr):***

Any question the parent asked that is meant to elicit information from the child but does not contain any new information in the question (e.g., “*What happened to your arm?*” when this same question has already been asked).

### ***Yes–no question (YN)/ Yes–no question new (YNn):***

Any question in which the child is required to confirm or negate information provided by the parent. The yes-no question may contain new information (e.g., “*Did you get stitches on your head?*” when stitches are being mentioned for the first time) (YNn). The question should contain new information and **not** be a general question (e.g., “*do you remember what happened?*” is too general to receive a YN code)

### ***Yes–no question repetition (YNr):***

Any question that provides the child with previously discussed information about the event in which the child is required to confirm or negate the information provided by the parent (e.g., “*Did you get stitches on your head?*” when this information has already been provided).

### ***Evaluation (EVAL):***

A statement that either confirms or negates the child’s previous utterance (e.g., “*Right,*” “*Yeah,*” or “*No*”). The parent’s repetition of a child’s previous response is considered an EVAL as well. Confirmations (EVALc) and negations (EVALn) will be coded separately but summed to create total ‘EVAL’.

## Questions

### *Memory questions (MQ)*

Any question asking the child to provide a piece of new memory information about the traumatic event or a particular aspect of the event. Most of these will be wh- questions or and "can you tell me about" "tell me about..." questions. However, the parent needs to provide some specificity; "what happened?" or "do you remember everything" would be considered too general to receive a code. However, "what happened when we were in the ambulance?" would receive a code as the parent is providing information to scaffold the child's memory. Questions delivered verbatim from prompt cards should not be coded.

### **Additional notes:**

- Questions in which the parent provides *new* information (information which has not been mentioned before) should not be coded as MQ (see Memory question new below).
- Memory questions ask the child to provide memory information as opposed to requiring the child to simply confirm or deny in response to the parents question (these would be Yes-no questions which are discussed below). For example, "*How did we get there?*" is MQ vs. "*Do you remember how we got there?*" (could be answered with a yes or no) is YN.
- "*What else?*" without any specific identification of the information from the parent is not coded as MQr or MQ.
- Only the first instance of "*What else...?*" with specific identification of the information within an event gets coded as an MQ - all further "*What else's ...?*" count as MQr. For example,  
Parent: What else happened at the hospital? (MQ)  
Child: I had an x-ray.  
Parent: What else happened at the hospital? (MQr)

### **Memory questions new (MQn)**

Any question in which the parent provides a piece of new memory information about an event or a particular aspect of the event (e.g., "*What did I do when you went for your x ray?*" when the x ray has not been mentioned before and "*tell me what the doctor said*" when the doctor has not been mentioned before). Note that new information is different from previous utterances of either the parent or the child. Questions delivered verbatim from prompt cards should not be coded. The 'new' element of the utterance should provide additional contextual information. Questions which provide new information but can be answered with a yes or no response should not be coded as MQn (see YNn below).

### ***Memory questions repetitions (MQr)***

Parents request the same information from the child as in their previous utterance (e.g., parent asks "*Who was there at the hospital?*" and in the next conversational turn repeats "*Do you remember who was there?*" (MQr)). Repetitions repeat the exact content or the gist (non-verbatim) of their previous utterance, regardless of whether the previous utterance was a statement or a question.

#### **Additional notes:**

- If a parent repeats a question from a discussion of the event, that question is still a MQr rather than an MQ.
- "*there was somebody else that was up at hospital, who else was at the hospital?*" (MQr) — Note that in this case the ‘who else’ question is used paraphrasing immediately previous utterance, and hence is a MQr and not a MQ.
- If the parent repeats the prompt card but using their own words, this could be coded as MQr. Reading the prompt card verbatim should not be coded.
- Information repeated at any stage of the narrative is coded as MQr and not MQ.
- If parent repeats a MQ but rephrase the style of the question to be a YN it counts as a YNr and vice versa e.g. "*What happened after the accident and before you arrived at the hospital?* (MQ) / *Remember that?* (YNr)".

### ***Yes-no questions (YN)***

Any question simply requiring the child to confirm or deny a piece of information provided by the parent. The information in the question is not new (e.g., "*Did you like the sandwich the nurse gave you at the hospital?*" when the sandwich has been mentioned before). General questions which do not scaffold the child's memory by containing cues should not be coded (e.g., "*do you remember everything?*" and "*do you remember what happened next?*"). If the coder is unsure as to whether the utterance is too general, it may be helpful to ask "does this question scaffold the child's memory in anyway". If the answer is no, it may not be necessary to assign YN. When deciding whether a question is too general, the coder should consider whether the context in which the question is asked. For example, if the parent asks "do you remember that now" following a piece of contextual information, the question would get a YN code as the parent is directing the child to a specific part of the event (e.g. "*Then the fireman came. / Do you remember that now?*"(YN))

Tag questions<sup>9</sup> are included as yes-no questions (e.g., "*That was a lot of fun, wasn't it?*" "*They were pretty big weren't they?*" "*We spent a lot of time in there didn't we?*") **EXCEPT** when they confirm or deny the child's prior utterance. In this instance, EVAL-C overrides the YN code.

Parent: Was the doctor nice? (YN)

Child: Mmhm

Parent: *He was, wasn't he?* (EVALc)

### **Additional notes:**

- YN does not include yes-no questions in which the parent provides information which has not been mentioned before (see yes-no questions new below).
- Parents "guessing" or "fake" memory questions where they are making things up to get a response from the child count as elaborations (for example, "*were the paramedics wearing a green uniform?*" when the parent was not at the

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<sup>9</sup> A tag question turns a statement into a question by adding an interrogative fragment

scene of the accident and so could not have known the answer to this question) and are coded.

- It is possible for a single sentence to contain more than one YN code (e.g., "*Were there lots of people there (YN), | or not so many?*" (YN)". Note: Coders should be guided by the chunking applied as only one style code should be given per chunk.
- The majority of questions which are assigned a YN code will be responded to with 'yes' or 'no'. However, other closed questions, which do not elicit a 'yes' or 'no' response may also receive a YN code (for example, "*did you prefer the breakfast or the lunch you had in hospital*" would receive a YN code as it is not asking the child to elaborate on the memory enough to warrant a MQ code ).

### **Yes-no questions new (YNn)**

Any question simply requiring the child to confirm or deny a new piece of information provided by the parent (e.g., "*Do you remember the doctor with the long beard?*" when the doctor has not been mentioned before).

Tag questions which follow new information are included as YNn questions (e.g., "*They waiting room was pretty busy wasn't it?*" when the waiting room has not been discussed before).



### ***Yes-no questions repetitions (YNr)***

Parent asks the child to confirm or deny the same information as in previous utterance (e.g., "*Was it hot in there* (YN) *or cold?* (YN) *Was it hot?*" (YNr)). Note that repetitions repeat the exact content or the gist (non-verbatim) of their previous utterance, regardless of whether the previous utterance was a statement or a question. Information repeated at any stage of the narrative is coded as YNr and not YN. A YNr question should not cue the child to new contextual information:

### ***Incorrect example:***

Parent: Did paramedic [name] come first | or was there somebody else? (NOT YNr as the parent is offering the possibility that someone else was there which is new information)

## Evaluations

### Evaluations confirmations (EVALc) and Evaluations negations (EVALn)

Utterances that confirm (EVALc) or negate (EVALn) a child's previous utterance, and often include repetition of the child's previous utterances along with "*Right*," "*Yes*," or "*No*". The coding unit used for evaluations is the instance of occurrence (e.g., when the child responded she chose between a red and green cast and parent said "*Red and green? Very good!*" the parent's response is coded as two EVALc, one a repetition of the child's correct response, and the other an affirmation). Evaluation could also include an echo or partial repetition of child's utterance. For example, it can be parent saying "*Yeah?*" following child's remark. The parent must be evaluating the child's remark or thought, not their own.

#### Additional notes:

- If parent's partial repetition additionally adds new memory information, it would be an MQn rather than EVAL.
- EVAL may include a parent comment with questioning intonation but without expectation of child's answer to question itself. For example:  
Child: We went in the ambulance.  
Parent: We did (EVALc)  
Parent: Uhhuh (EVALc), we did (EVALc)  
Parent: Yeah (EVALc), that's right (EVALc)  
Parent: What did the doctor tell you?  
Child: To relax.  
Parent: To relax (EVALc) That's right (EVALc) Told you that didn't he (EVALc)  
Parent: Was the doctor nice?  
Child: Mmhm  
P: He was, wasn't he? (EVALc)
- With negations, parent disconfirms or 'gently doubts' child's prior response. The **tone of the utterance may be important** to determine whether the parent gently doubts the child's account. Coders may wish to listen to the audio recording.

- Note that ‘mmm’ and ‘ok’ on their own should not be coded as EVAL unless there is clear indication (such as from the transcribers additional notes) that the parent was providing an evaluation rather than just using the word as a speech filler.
- A parent’s ‘yes’ or ‘yeh’ on its own can be coded as EVALc. However, a string of ‘yeh’ or ‘yes’ should not receive more than one EVALc. (e.g. Parent: The car was green. Child: Yes it was green. Parent: Yeh. (EVALc) Parent Yes, green (no EVALc).
- A parent's "No" is not always a negation; think in terms of whether parent is disagreeing or agreeing with child's previous utterance. For example:  
Child: We didn't go to see the surgeon.

Parent: No (EVALc), we didn't (EVALc).

- A parent may provide an evaluation which is followed by a new piece of contextual information in the same utterance. The coder should use their judgment as to whether the evaluation or new piece of contextual information is more significant to the narrative.

*Correct example of EVALc:*

Child: |We then went in the ambulance |

Parent: |That is right| (EVALc)

*Correct example of EVALn:*

Child: |I think we waited to see the doctor for 30 minutes |

Parent: |It was much longer than that| (EVALn)

*Incorrect example of EVALc:*

Parent: |That other kid had lots of bruising |

Child |Lots of bruising|

Parent: |mmm| (NOT EVALc because the parent is confirming their own original utterance, not the child's).

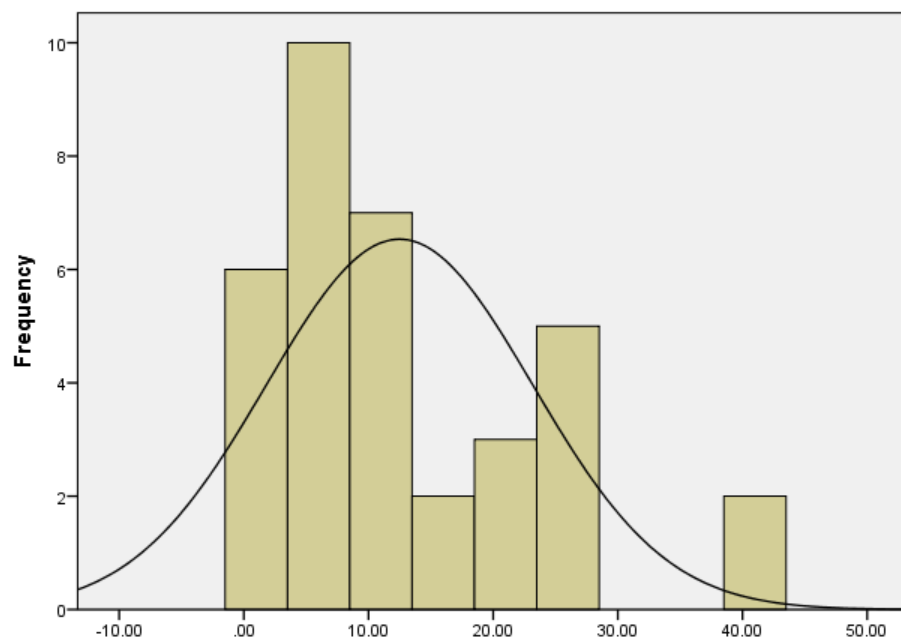
### **Calculating composite elaboration ratio**

In line with Peterson, McDermott Sales, Rees and Fivush (2007) a composite score will be created for each parent. An elaboration ratio will be calculated based on:

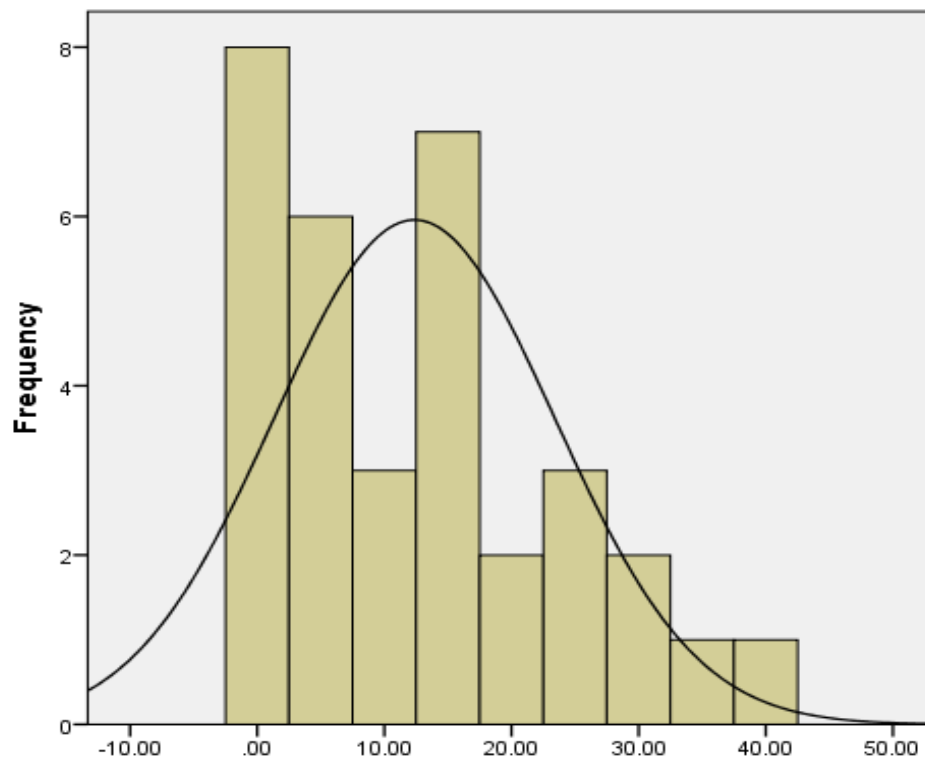
Number of elaborations (including both memory question elaborations and yes–no question elaborations) + the number of evaluations divided by the number of elaborations + evaluations + repetitions.

## Appendix L Normality plots

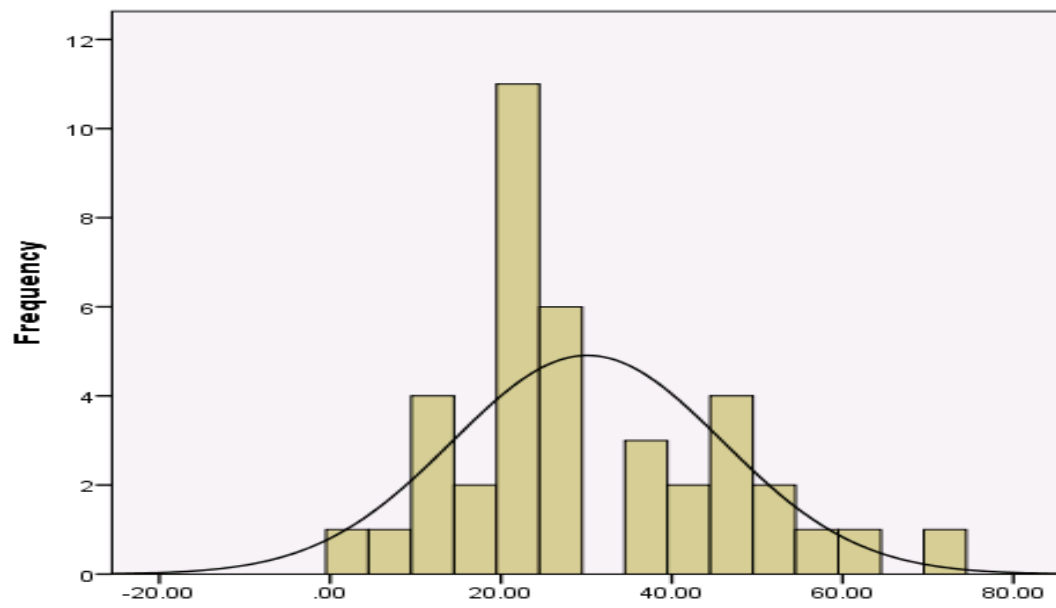
**Normality plot for parent-rated PTSD-RI at follow-up**



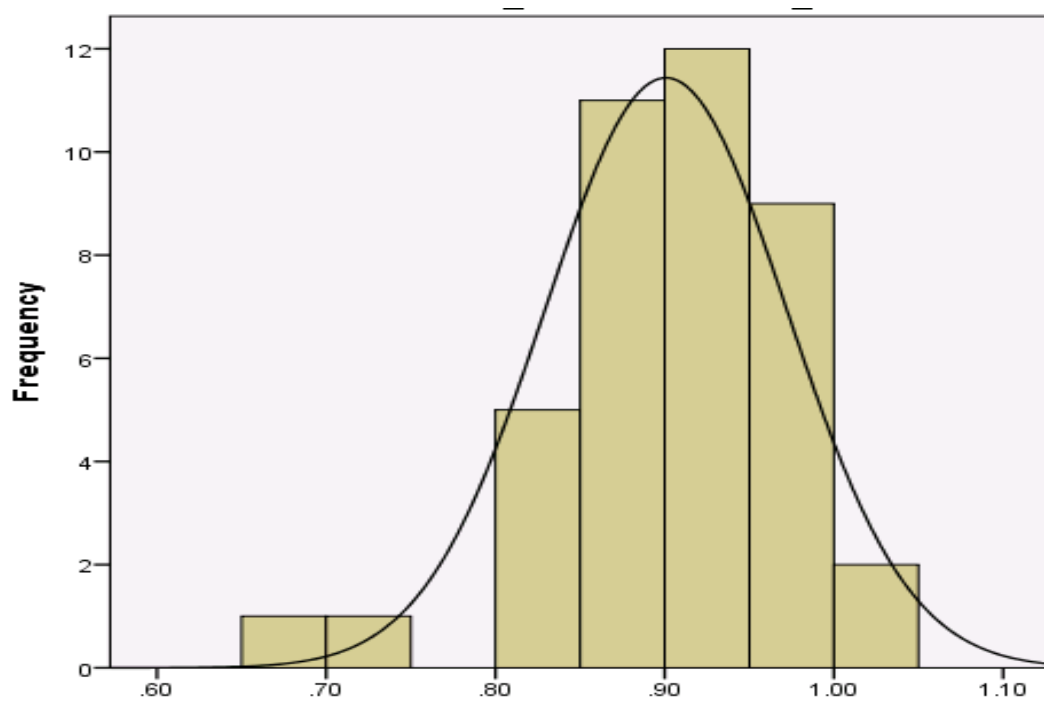
**Normality plot for the RCADS at follow-up**



**Normality plot for the PO**



**Normality plot for the elaboration ratio**



**Normality plot for DASS-21 anxiety at initial assessment**

